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LOCKE AND SYDENHAM.

THE studies of Metaphysics and Medicine have more in common, both as to means and ends, than may perhaps at first sight appear. John Locke and Thomas Sydenham,—the one the founder of our analytical philosophy of mind, and the other of our practical medicine,—were not only great personal friends, but were of essential use to each other in their respective departments; and we may safely affirm, that for much in the *Essay on Human Understanding*, we are indebted to its author's intimacy with Sydenham, "one of the master builders at this time in the commonwealth of learning," as Locke calls him, in company with "Boyle, Huygens, and the incomparable Mr. Newton." And Sydenham, it is well known, in the third edition of his "*Observationes Medicæ*," expresses his deep obligation to Locke in his dedicatory letter to their common friend Dr. Mapletoft, in these words:—"Nosti præterea, quam huic meæ methodo suffragantem habeam, qui eam intimius per omnia perspexerat, utrique nostrum conjunctissimum Dominum Johannem Lock; quo quidem viro, sive ingenio judicioque acri et subacto, sive etiam antiquis (hoc est optimis) moribus, vix superiorem quenquam inter eos qui nunc sunt homines repertum iri confido, paucissimos certe pares." Referring to this passage, when noticing the early training of this "*ingenium judiciumque acre et subactum*," Dugald Stewart says, with great truth, "No

science could have been chosen, more happily calculated than Medicine, to prepare such a mind for the prosecution of those speculations which have immortalized his name; the complicated and fugitive, and often equivocal phenomena of disease, requiring in the observer a far greater proportion of discriminating sagacity than those of Physics, strictly so called; resembling, in this respect, much more nearly, the phenomena about which Metaphysics, Ethics, and Politics are conversant."

Hartley, Mackintosh, and Brown, were physicians; and we know that medicine was a favorite subject with Socrates, Aristotle, Bacon, Descartes, and Berkeley. We wish our young doctors kept more of the company of these and such like men, and knew a little more of the laws of thought, of the nature and rules of evidence, of the general procedure of their own minds in the search after, the proof and the application of, what is true, than, we fear, they generally do.* They

* Pinel states, with great precision, the necessity there is for physicians to make the mind of man, as well as his body, their especial study. "*L'histoire de l'entendement humain, pourroit-elle être ignorée par le médecin, qui a non-seulement à décrire les vésanies ou maladies morales, et à indiquer toutes leurs nuances, mais encore, qui a besoin de porter la logique la plus sévère pour éviter de donner de la réalité à de termes abstraits pour procéder avec sagesse des idées simples à des idées complexes, et qui a sans cesse sous ses yeux des écrits, où le défaut de*

might do so without knowing less of their Auscultation, Histology, and other good things, than they do, and with knowing them to much better purpose. We wonder, for instance, how many of the century of graduates sent forth from our University every year—armed with microscope, stethoscope, uroscope,* pleximeter, &c., and omniscient of *râles* and *rhonchi*, sibilous and sonorous; crepitations moist and dry; *bruits de râpe*, *de scie*, *et de soufflet*; blood plasmata cyto-blasts and nucleated cells, and great in the infinitely little—we wonder how many of these eager and accomplished youths could “unsphere the spirit of Plato,” or read with moderate relish and understanding one of the Tusculan Disputations, or who had ever heard of “Butler’s Three Sermons on Human Nature,” “Berkeley’s Minute Philosopher,” or of an “Essay on the Conduct of the Understanding,” of which Mr. Hallam says, “I cannot think any parent or instructor justified in neglecting to put this little treatise in the hands of a boy about the time that the reasoning faculties become developed,” and whose admirable author we shall now endeavor to prove to have been much more one of themselves than is generally supposed.

In coming to this conclusion, we have been mainly indebted to the classical, eloquent, and conclusive tract by Lord Grenville, entitled “Oxford and Locke;” to Lord King’s life of his great kinsman; to Wood’s *Athenæ* and *Fasti Oxonienses*; to the letters from Locke to Drs. Mapletoft, Molyneux, Sir Hans Sloane and Boyle, published in the collected edition of his works; to Ward’s *Lives of the Gresham Professors*; and to a very curious collection of letters of Locke, Algernon Sidney, the second Lord Shaftesbury, and others, edited and privately printed by the eccentric Dr. T. Forster.

Le Clerc, in his *Eloge upon Locke* in the *Bibliothèque Choisie*, (and in this he has been followed by all subsequent biographers,) states, that when a student at Christ Church, Oxford, he devoted himself with great earnestness to the study of Medicine, but that he never practiced it as his profession, his chief object having been to qualify himself

to act as his own physician, on account of his general feebleness of health and tendency to consumption. To show the incorrectness of this statement, we give the following short notice of his medical studies and practice; it is necessarily slight, but justifies, we think, our assertion in regard to him *quâ medicus*.

LOCKE was born in 1632 at Wrington, Somersetshire, on the 29th of August, the anniversary, as Dr. Forster takes care to let us know, of the Decollation of St. John the Baptist—eight years after Sydenham, and ten before Newton. He left Westminster school in 1651, and entered Christ Church, distinguishing himself chiefly in the departments of medicine and general physics, and greatly enamored of the brilliant and then new philosophy of Descartes.

In connection with Locke’s university studies, Anthony Wood, in his autobiography, has the following curious passage: “I began a course of chemistry under the noted chemist and rosicrucian Peter Sthael of Strasburg, a strict Lutheran, and a great hater of women. The club consisted of ten, whereof were Frank Turner, now Bishop of Ely, Benjamin Woodroof, now Canon of Christ Church, and John Locke of the same house, now a noted writer. This same John Locke was a man of a turbulent spirit, clamorous, and never contented; while the rest of our club took notes from the mouth of their master, who sat at the upper end of a long table, the said Locke scorned to do this, but was forever prating and troublesome.” This misogynistical rosicrucian was brought over to Oxford by Boyle, and had among his pupils Sir Christopher Wren, Dr. Wallis, and Sir Thomas Millington. The fees were three pounds, one half paid in advance.

Locke continued through life greatly addicted to medical and chemical researches. He kept the first regular journal of the weather, and published it from time to time in the *Philosophical Transactions*, and in Boyle’s *History of the Air*. He used in his observations a barometer, a thermometer, and a hygrometer. His letters to Boyle are full of experiments and speculations about chemistry and medicine; and in a journal kept by him when traveling in France, is this remarkable entry: “M. Toinard produced a large bottle of muscat; it was clear when he set it on the table, but when the stopper was drawn a multitude of little bubbles arose. It comes from this, that the included air had liberty to expand itself;—*query, whether this be air new generated*. Take a bottle of fermenting liquor, and tie a

s’entendre, la séduction de l’esprit de système, et l’abus des expressions vagues et indéterminées ont amené de milliers des volumes et des disputes interminables?”—Méthodes d’Etudier en Médecine.

* We suppose we shall soon arrive at that exquisite nicety predicted by Mandeville, when our uroscope will enable us to “diagnose” in the product of a Sunday the religion, and in that of a weekday the politics, of our patient.

bladder over its mouth, how much new air will this produce, *and has this the quality of common air?*" We need hardly add, that about a hundred years after this, Dr. Black answered this capital query, and in doing so, transformed the whole face of chemistry.

We now find that, in contradiction to the generally received account, Wood, who was an Oxford man, and living on the spot, says, in his spiteful way, "Mr. Locke, after having gone through the usual courses preparatory to practice, entered upon the physic line, and got some business at Oxford." Nothing can be more explicit than this, and more directly opposed to Le Clerc's account of his friend's early life, which, it may be remembered, was chiefly derived from notes furnished by the second Lord Shaftesbury, whose information must necessarily have been at second or third hand. In 1666, Lord Ashley, afterward the first Lord Shaftesbury, came to Oxford to drink the water of Astrop; he was suffering from an abscess in his chest, the consequence of a fall from his horse. Dr. Thomas, his lordship's attendant, happening to be called out of town, sent his friend Locke, then practicing there, who examined into his complaints, and advised the abscess to be opened; this was done, and, as the story goes, his lordship's life was saved. From this circumstance took its origin the well-known friendship of these two famous men. That their connection at first was chiefly that of patient and doctor, is plain from the expression, "He, the Earl, would not suffer him to practice medicine out of his house, except among some of his particular friends," implying that he was practicing when he took him. In 1668, Locke, then in his 36th year, accompanied the Earl and Countess of Northumberland to the Continent, as their physician. The Earl died on his journey to Rome, leaving Locke with the Countess in Paris. When there, he attended her during a violent attack of what seems to have been *tic-douloureux*, a most interesting account of which, and of the treatment he adopted, was presented by the late Lord King to the London College of Physicians, and was read before them in 1829. We have, by the great kindness of Dr. Paris, the president of the College, had access to a copy of this medical and literary curiosity, which, besides its own value as a plain, clear statement of the case, and as an example of simple, skillful treatment, is the best of all proofs that at that time Locke was a regular physician. We cannot give this case higher praise, or indicate more significantly its won-

derful superiority to the cases to be found in medical authors of the same date, than by saying that in expression, in description, in diagnosis, and in treatment, it differs very little from what we have in our own best works.

After the Earl's death, Locke returned to England, and seems to have lived partly at Exeter House with Lord Shaftesbury, and partly at Oxford. It was in 1670, at the latter place, that he sketched the first outline of his immortal Essay, the origin of which he has so modestly recorded in his Epistle to the Reader. Dr. Thomas, and most probably Dr. Sydenham, were among the "five or six friends who met at my chambers," and started the idea of that work, "which has done more than any other single work to rectify prejudice, to undermine established errors, to diffuse a just mode of thinking, to excite a fearless spirit of inquiry, and yet to contain it within the boundaries nature has set to the human faculties. If Bacon first discovered the rules by which knowledge is to be advanced, Locke has most contributed by precept and example to make mankind at large observe them, and has thus led to that general diffusion of a healthful and vigorous understanding, which is at once the greatest of all improvements, and the instrument by which all other improvements must be accomplished."

About this time Locke seems to have been made a Fellow of the Royal Society. In 1674 he took the degree of Bachelor of Medicine; he never was Doctor of Medicine, though he generally passed among his friends as Dr. Locke.

In 1675 he went abroad for his health, and apparently, also, to pursue his medical studies. He remained for some time at Montpellier, then the most famous of the schools of medicine. He attended the lectures of the celebrated Barbyrac, to whose teaching Sydenham is understood to have been so much indebted. When there, and during his residence abroad, he kept a diary, large extracts from which are for the first time given by Lord King.* The following

* Lord King refers to numerous passages in Locke's Diaries exclusively devoted to medical subjects, which he has refrained from publishing, as unlikely to interest the general public; and Dr. Forster gives us to understand that he has in his possession "some ludicrous, sarcastic, and truly witty letters to his friend Furley on medicine, his original profession;" but which letters the doctor declines giving to the public "in these days of absurd refinement." We would gladly forswear our refinement to have a sight of them; anything that Locke considered worth the writing down about anything is likely to be worth the reading.

account of the annual "capping" at Montpellier is very amusing. "The manner of making a Doctor of Physic is this: 1st, a procession in scarlet robes and black caps—the professor took his seat—and after a company of fiddlers had played a certain time, he made them a sign to hold, that *he* might have an opportunity to entertain the company, which he did in a speech against innovations—the musicians then took their turn. The Inceptor or candidate, then began his speech, wherein I found little edification, being chiefly complimentary to the chancellor and professors, who were present. The Doctor then put on his head the cap that had marched in on the beadle's staff, in sign of his doctorship—put a ring upon his finger—girt himself about the loins with a gold chain—made him sit down beside him—that having taken pains he might now take ease, and kissed and embraced him in token of the friendship which *ought* to be amongst them."

From Montpellier he went to Paris, and was a diligent student of anatomy under Dr. Guenelon, with whom he was afterward so intimate, when living in exile at Amsterdam.

In June 1667, when in Paris, he wrote the following jocular letter to his friend Dr. Mapletoft, then physic professor at Gresham College. This letter, which is not noticed in any life of Locke that we have seen, is thus introduced by Dr. Ward:—"Dr. Mapletoft did not continue long at Gresham, and yet longer than he seems to have designed, by a letter to him, written by the famous Mr. John Locke, dated from Paris, 22d June 1677, in which is this passage: 'If either absence (which sometimes increases our desires) or love (which we see every day produces strange effects in the world) have softened you, or disposed you toward a liking for any of our fine new things, 'tis but saying so, and I am ready to furnish you, and should be sorry not to be employed; I mention love, for you know I have a particular interest of my own in it. When you look that way, nobody will be readier, as you may guess, to throw an old shoe after you, much for your own sake, and a little for a friend of yours. But were I to advise, perhaps I should say that the lodgings at Gresham College were a quiet and comfortable habitation.' By this passage," continues Ward, "it seems probable that Dr. Mapletoft had then some views to marriage, and that Mr. Locke was desirous, should it so fall out, to succeed him. But neither of these events happened at the time,

for the Doctor held his professorship till the 10th October 1679, and in November following, married Rebecca, the daughter of Mr. Lucy Knightley of Hackney, a Hamburg merchant." And we know that on the 10th of May that same year, Locke was sent for from Paris by Lord Shaftesbury, when his Lordship was made President of Sir William Temple's Council, half a year after which they were both exiles in Holland. As we have already said, there is something very characteristic in this jocular, pawky, affectionate letter.

There can be little doubt from this, that so late as 1677, when he was 45 years of age, Locke was able and willing to undertake the formal teaching of medicine.

It would not be easy to say how much mankind would have at once lost and gained—how much the philosophy of mind would have been hindered, and how much that of medicine would have been advanced, had John Locke's lungs been as sound as his understanding, and had he "stuck to the physic line," or had his friend Dr. Mapletoft "looked that way" a little earlier, and made Rebecca Knightley his wife two years sooner, or had Lord Shaftesbury missed the royal reconciliation and his half year's presidency.

Medicine would assuredly have gained something it still lacks, and now perhaps more than ever, had that "friend of yours," having thrown the old shoe with due solemnity and precision at the heads of the happy couple, much for their sakes and a little for his own, settled down in that quiet, comfortable, baccalaurean habitation, over against the entrance into Bishopsgate street, and had thenceforward, in the prime of life, directed the full vigor of that singularly enlightened, sound, humane, and practical understanding, to the exposition, of what Lord Grenville so justly calls, "the large and difficult" subject of medicine. What an amount of gain to rational and effective medicine—what demolition of venerable and mischievous error—what exposition of immediately useful truth—what an example for all future laborers in that vast and perilous field, of the best *method* of attaining the best ends, might not have been expected from him of whom it was truly said that "he knew something of everything that could be useful to mankind!" It is no wonder then, that looking from the side of medicine, we grudge the loss of the Locke "Physic Lectures," and wish that we might, without fable, imagine ourselves in that quaint steep-roofed quad-

range, with its fifteen trees and its diagonal walks across the green Court; and at eight o'clock, when the morning sun was falling on the long legs and antennæ of the gilded grasshoppers, and the mighty hum of awakening London was beginning to rise, might figure to ourselves the great philosopher stepping briskly through the gate into his lecture-room—his handsome, serious face, set "in his hood, according to his degree in the university, as was thought meet for more order and comeliness sake," and there, twice every week in the term, deliver the "solemn Physic Lecture," in the Latin tongue, in dutiful accordance with the "agreement tripartite, between the mayor, commonalty, and citizens of London—the wardens and commonalty of the mystery of mercers, and the lecturers in Gresham House;" and again, six hours later, read the same "solemn lecture" we would fancy with more relish and spirit in the "English tongue," "forasmuch," so good Sir Thomas' will goes, "as the greater part of the auditory is like to be of such citizens and others as have small knowledge, or none at all, of the Latin tongue, and for that every man, for his health's sake, will desire to have some knowledge of the art of physic."

We have good evidence, from the general bent and spirit of Locke's mind, and from some occasional passages in his letters, especially those to Dr. Molyneux, that he was fully aware of the condition of medicine at that time, and of the only way by which it could be improved. Writing to Dr. Molyneux, he says, "I perfectly agree with you concerning general theories—the curse of the time and destructive not less of life than of science—they are for the most part but a sort of waking dream, with which, when men have warmed their heads, they pass into unquestionable truths. *This is beginning at the wrong end*, men laying the foundation in their own fancies, and then suiting the phenomena of diseases, and the cure of them, to these fancies. I wonder, after the pattern Dr. Sydenham has set of a better way, men should return again to this romance way of physic. But I see it is more easy and more natural for men *to build castles in the air of their own than to survey well those that are on the ground. Nicely to observe the history of diseases in all their changes and circumstances is a work of time, accurateness, attention, and judgment*,"* and

* The eloquent Buffon thus speaks of the gift of observation:—"Il y a une espèce de force de génie,

wherein if men, through prepossession or oscitancy, mistake, they may be convinced of their error by unerring nature and matter of fact. What we know of the works of nature, especially in the constitution of health and the operations of our own bodies, is *only by the sensible effects, but not by any certainty we can have of the tools she uses, or the ways she works by.*"

But we must draw this notice of Locke in the character of Doctor to a close. In the Philosophical Transactions for 1697, there is an account by him of an odd case of hypertrophied nails, which he had seen at La Charité when in Paris, and he gives pictures of the hornlike excrescences, one of them upward of four inches long. The second Lord Shaftesbury, who was Locke's pupil, and for whom he chose his wife, in a letter to Furley, who seems to have been suffering from a relapse of intermittent fever, explains, with great distinctness and good sense, "*Dr. Locke's method*" of treating this disease with the Peruvian bark; adding, "I am satisfied, that of all medicines, if it be good of its kind, and properly given, it is the most innocent and effectual, whatever bugbear the world makes of it, especially the tribe of inferior physicians, from whom it cuts off so much business and gain." We now conclude our notices of Locke's medical history, which, however imperfect, seem to us to warrant our original assertion, with the following weighty sentence taken from the admirable "*Fragment on Study*" given by Lord King, and which was written when Locke was at his studies at Oxford. It accords nicely with what we have already quoted from Dugald Stewart:

"Physic, polity, and prudence are not capable of demonstration, but a man is principally helped in them, 1, by the history of matter of fact; and, 2, by a sagacity of inquiring into probable causes, and finding out an analogy in their operations and effects. Whether a certain course in public or private affairs will succeed well—whether

et de courage d'esprit, à pouvoir envisager sans s'étonner, la Nature dans la multitude innombrable de ses productions, et à se croire capable de les comprendre et de les comparer; il y a une espèce de gout, à les aimer, plus grand que le gout qui n'a pour but, que des objets particuliers, et l'un peut dire, que l'amour et l'étude de la Nature, suppose dans l'esprit deux qualités qui paroissent opposées, les grandes vues d'un génie ardent, qui embrasse tout d'un coup-d'œil, et les petites attentions d'un instinct laborieux, qui ne s'attache qu'à un seul point." Gaubius calls it "*masculum illud observandi studium veteribus tantopere excultum.*"

rhubarb will purge, or quinquina cure an ague, can be known only by experience."*

SYDENHAM, the prince of practical physicians, whose character is as beautiful and as genuinely English as his name, did for his art what Locke did for the philosophy of mind—he made it, in the main, observational; he made knowledge a means, not an end. It would not be easy to over-estimate our obligations as a nation to these two men, in regard to all that is involved in health of body and soundness of mind. They were among the first in their respective departments to show their faith in the inductive method, by their works. They both professed to be more of guides than critics, and were the interpreters and servants of nature, not her diviners and tormentors. They pointed out a way, and walked in it; they taught a method, and used it, rather than announced a system or a discovery; they collected and arranged their *visa* before settling their *cogitata*, a mean-spirited proceeding, doubtless, in the eyes of the prevailing dealers in hypotheses, being in reality the exact reverse of their philosophy. How curious, how humbling, to think that it was not till this time, that men in search of truth were brought to see that "it is not the insufficiency or incapacity of man's mind, but the *remote standing or placing thereof*, that breedeth mazes and incomprehensions; for as the sense afar off is full of mistaking, but is exact at hand, so is it of the understanding, *the remedy whereof is not to quicken or strengthen the organ, but to go nearer to the object.*" Well might the noble author even now say, as he does in the context—(he is treating of medicine)—"Medicine is a science which hath been more professed than labored, more labored than advanced, the labor being in my judgment more in a circle than in progression: I find much iteration, but

small addition;" and he was right in laying much of this evil condition to the discontinuance of "the ancient and serious diligence of Hippocrates." This serious diligence, this *ἀκρισία* or nicety of observation, by which the "divine old man of Cos" achieved so much, was Sydenham's master-principle in practice and in speculation. He proclaimed it anew, and displayed in his own case its certain and inestimable fruits.

It appears to us one of the most interesting, as it is certainly one of the most difficult and neglected departments of medical literature, to endeavor to trace the progress of medicine as a *practical art*, with its rules and instruments, as distinguished from its consolidation into a systematic science with its doctrines and laws, and to make out how far these two, which conjoined, form the philosophy of the subject, have or have not harmonized with, and been helpful to each other, at different periods of their histories. Much might be done to make such an inquiry instructive and attractive, by marking out the history of medicine into three or four great epochs, and taking, as representative of each, some one distinguished artsman or practitioner, as well as teacher or discoverer. We might have Hippocrates and his epoch, Sydenham and his John Hunter, Pinel, and Lænnec and theirs. These great men differed certainly widely enough in character and in circumstances, but all agreed in this, their possessing in large measure, and of rare quality, that native sagacity, that power of serious, choice, patient, continuous, honest observation, which is at once a gift and a habit; that instinct for seeking and finding, which Bacon calls "*experientia literata, sagacitas potius et odoratio quædam venatica, quam scientia*;" that general strength and soundness of understanding, and that knack of being able to apply their knowledge, instantly and aright, in practice, which must ever constitute the cardinal virtues of a great physician, the very pith and marrow of his worth.

Of the two first of these famous men, we fear there survives in the profession little more than the names; and we receive from them, and are made wiser and better by inheriting their treasures of honest and exquisite observation, of judicious experience, without, we fear, knowing or caring much from whom it has come. "One man soweth, and another reapeth." The young forget the old, the children their fathers; and we are all too apt to reverse the saying of the wise king,—"I praised the dead that are already dead, more than the living that are yet alive."

* Dr. Thomas Young puts this very powerfully in the preface to his "Introduction to Medical Literature." "There is, in fact, no study more difficult than that of physic: it exceeds, as a science, the comprehension of the human mind; and those who blunder onward, without attempting to understand what they see, are often nearly on a level with those who depend too much on imperfect generalizations." "Some departments of knowledge defy all attempts to subject them to any didactic method, and require the exercise of a peculiar address, a judgment, or a taste *which can only be formed by indirect means.* It appears that physic is one of those departments in which there is frequent necessity for the exercise of an *incommunicable faculty of judgment, and a sagacity which may be called transcendental, as extending beyond the simple combination of all that can be taught by precept.*"

As we are not sufficiently conscious of, so we assuredly are not adequately grateful for that accumulated volume of knowledge, that body of practical truth, which comes down as a gift to each one of us from six thousand years of human endeavor, and which, like a mighty river, is moving forever onward—widening, deepening, strengthening, as it goes; for the right administration and use of whose untold energies and wealth, we, to whom it has thus far descended, are responsible to Him from whom it comes, and to whose feet it is hastening—responsible to an extent we are too apt to forget, or to underrate. We should not content ourselves with sailing victoriously down the stream, or with considering our own portion of it merely; we should go up the country oftener than we do, and see where the mighty feeders come in, and learn and not forget their names, and note how much larger, how much powerfuller the stream is after they have joined it. It is the lot of the successful medical practitioner who is more occupied with discerning diseases and curing them, than with discoursing about their essence, and arranging them into systems, who observes and reflects in order to act, rather than to speak,—it is the lot of such men to be invaluable when alive, and to be forgotten soon after they are dead, and this not altogether or chiefly from any special ingratitude or injustice on the part of mankind, but from the very nature of the case. Much that made such a man what the community, to their highest profit, found him to be, dies with him. His inborn gifts, and much of what was most valuable in his experience, were necessarily incommunicable to others, this depending much on his forgetting the process by which, in particular cases, he made up his mind, and its minute successive steps, from his eagerness to possess and put in action the result, and much from his being confident in the general soundness of his method, and caring little about formally recording to himself his transient mental conditions, much less announcing them articulately to others;—but mainly, we believe, because no man can explain directly to another man *how* he does any one practical thing, the doing of which he himself has accomplished, not at once, or by imitation, or by teaching, but by repeated personal trials, by missing much before ultimately hitting. You may be able to expound excellently to your son the doctrine of projectiles, or read him a course of lectures upon the principles of horsemanship, but

you cannot make over to him your own knack as a dead-shot, or make him keep his seat over a rasping fence. He must win these for himself as you have done before him. Thus it is that much of the best of a man like Sydenham, dies with him.

It is very different with them who frequent the field of scientific discovery. Here matters are reversed. No man, for instance, in teaching anatomy or physiology, as he comes to enounce each new subordinate discovery, can fail to unfold and to enhance the ever-increasing renown, of that keen *black-avie'd* little man, with his piercing eye, "small and dark, and so full of spirit;" his compact broad forehead, his self-contained peremptory air, his dagger at his side, and his fingers playing with its hilt, to whom we owe the little book, "*De motu cordis et sanguinis circulatione*." This primary, capital discovery, which no succeeding one can ever supersede or obscure, he could leave consummate to mankind; but he could not so leave the secret of his making it; he could not transmit that combination of original genius, invention, exactness, perseverance, and judgment, which enabled him, and can alone enable any man to make any such permanent addition to the amount of scientific truth. But what fitted Harvey for what he achieved, greatly unfitted him for such excellence in practice as Sydenham attained. He belonged to the science more than to the art. His friend Aubrey says of him, that "though all his profession would allow him to be an excellent anatomist, I have never heard of any who admired his therapeutic way." A mind of his substance and mettle, speculative and arbitrary, passing rapidly and passionately from the particular to the general, from multitude to unity, with, moreover, a fiery temper and an extemporaneous dagger as its sting, was not likely to take kindly to the details of practice, or make a very useful or desirable family doctor. Sydenham again, though his works everywhere manifest that he was gifted with a large capacity and keen relish for abstract truth, moved habitually and by preference in the lower, but at the time the usefuller sphere of everyday practice, speculating chiefly in order to act, reducing his generalizations back to particulars, so as to answer some immediate instance, the result of which was the signallest success of "his therapeutic way." We have had in our own day two similar examples of the man of science and the man of art; the one Sir Charles Bell—like Harvey, the explorer, the discoverer, the man of

genius and science, of principles and laws, having the royal gifts of invention and eloquence, was not equally endowed with those homelier, but in their degree not less rare qualities, which made Dr. Abercrombie, our Scottish Sydenham, what he was, as a master in the diagnosis and treatment of disease. The one pursued his profession as a science, to be taught, to be transmitted in its entirety—the other as an art to be applied. The one was, in the old phrase, luciferous—the other frugiferous.

One great object we have in now bringing forward the works and character of Sydenham, is to enforce the primary necessity, especially in our day, of attending to medicine as the art of healing, not less than as the science of diseases and drugs. We want at present more of the first than of the second. Our age is becoming every day more purely scientific, and is occupied far more with arranging subjects and giving names, and remembering them, than with understanding and managing objects. There is often more knowledge of words than of things.

We have already stated our notion, that to the great body of physicians now-a-days, Sydenham is little more than a name, and that his works, still more than those of his companion, Locke, are more spoken of than read. This is owing to several causes: partly to their being buried in Latin, which men seem now ashamed to know; partly to much in them being now scientifically obsolete and useless; partly from their practical value being impaired by our ignorance of his formulas of cure; and greatly also, we fear, from what Baglivi calls "an inept derision and neglect of the ancients," which is more prevalent than creditable. We include ourselves among these; for until we got Dr. Greenhill's edition, we had never read seriously and thoroughly these admirable tracts, which were all of an occasional character, and were forced from their author by the importunity of friends, or the envious calumny of enemies, often in the form of letters to his friends.

We had, when at college, picked up like our neighbors the current commonplaces about Sydenham; such as that he went by the name of "the Prince of English physicians." That Boerhaave (of whom, by the way, we knew quite as little, unless it were a certain awful acquaintance with a certain squab and golden visage, which grimly regarded us from above a druggist's door, as we hurried along the bridges to the Univer-

sity) was wont to take his hat off whenever he mentioned his name, and to call him "*Angliæ lumen, Artis Phœbum veram Hippocratici viri speciem:*" that his life was written by Samuel Johnson in the "*Gentleman's Magazine*," and was one of his earliest and worst paid performances; that he was a Whig, and went out into the field as a Parliament man. Moreover, that when asked by Sir Richard Blackmore what he would advise him for medical reading, he replied, "*read Don Quixote, sir*,"—an answer as full of sense as wit, and the fitness and wisdom of which it would be not less pleasant than profitable to unfold at length. We had been told, also, in a very general way by our teachers, that Sydenham had done some things for his profession, which, considering the dark age in which he lived, were highly to his credit; that his name was well connected with the history and management of the small-pox; the nature of epidemics, dropsies, &c., and that he had recorded his own sufferings from the gout in a very clever and entertaining way. All this was true, but by no means the whole truth. Not only are his observations invaluable to any one engaged in tracing the history of medicine as a practical art, and as an applied science; in marking in what respects it is changed, and in what unchanged; in how much it is better now than then, and in what little it is not so good. In addition to all this, they are full of excellent rules for the diagnosis and treatment of diseases; and we can trace to him as their origin many of our most common and valuable therapeutic doctrines. And they everywhere manifest how thoroughly he practiced what he taught, how honestly he used his own "method," that of continued, close, serious observation. But we confess, after all, our chief delight is from the discovery he makes in his works of his personal character—the exemplar he furnishes in himself of the four qualities Hippocrates says are indispensable in every good physician—learning, sagacity, humanity, probity. This personality gives a constant charm to everything he writes—the warmth of his humane, practical nature is felt throughout.

Above all, we meet with a habitual reference to what ought to be the supreme end of every man's thoughts and energies—the two main issues of all his endeavors, the glory of God and the good of men. Human life was to him a sacred, a divine, as well as a curious thing, and he seems to have possessed through life, in rare acuteness, that

sense of the value of what was at issue, of the perilous material he had to work in, and that gentleness and compassion for his suffering fellow-men, without which no man, be his intellect ever so transcendent, his learning ever so vast, his industry ever so accurate and inappeasable, need hope to be a great physician, much less a virtuous and honest man. This characteristic is very striking. In the midst of the most minute details, and the most purely professional statements, he bursts out into some abrupt acknowledgment of "The Supreme Judge," "The true Archiater and Archeus." We may give one among many such instances. He closes his observations on "the Epidemic Cough and Pleurisy Peripneumony of 1675," with this sudden allusion to the Supreme Being: "Qui post sequentur morbi, solus novit, QUI novit omnia." And again, after giving his receipt for the preparation of his laudanum liquidum, so much of Spanish wine, of opium, of saffron, of cinnamon and cloves, he adds, "Profecto non hic mihi tempero, quin gratulabundus animadvertam, DEUM omnipotentem παντων Δωτηρα εσων non aliud remedium, quod vel pluribus malis debellandis par sit, vel eadem efficacius extirpet, humano generi in miseriarum solatium concessisse, quam opiata."

If we may adapt the simple but sublime saying of Sir Isaac Newton, Sydenham, though diligent beyond most other "children" in gathering his pebbles and shells on the shore of the great deep, and in winning for mankind some things of worth from the vast and formless infinite, was not unconscious of the mighty presence beside which he was at work; he was not deaf to the strong music of that illimitable sea. He recognized in the midst of the known, the greater, the infinite, the divine unknown; behind everything certain and distinct he beheld something shadowy and unsearchable, past all finding out; and he did not, as many men of his class have too often done, and do, rest in the mere contemplation and recognition of the τι θειον. This was to him but the shadow of the supreme substance, ο θεος. How unlike to this fervor, this reverence and godly fear, is the hard, cool, nonchalant style of many of our modern men of science, each of whom is so intent on his own little pebble, so bent upon finding in it something no one else ever found, so self-involved and self-sufficient, that his eyes and his ears are alike shut to the splendors and the voices of the liberal

sea, out of whose multitudinous abyss it has been flung, and

"Which doth with its eternal motion make
A sound like thunder—everlastingly."

This habit of Sydenham's mind is strikingly shown in the first sentence of his Preface to the first edition of his Medical Observations:

"Qui medicinæ dat operam, hæc secum ut sæpe perpendat oportet: Primo, se de ægrorum vitâ ipsius curæ commissâ, rationem aliquando SUPREMO JUDICI redditurum. Deinde quicquid artis aut scientiæ, Divino beneficio consecutus est, imprimis, ad SUMMI NUMINIS laudem, atque humani generis salutem, esse dirigendum: indignum autem esse, ut cœlestia illa dona, vel avaritiæ, vel ambitus officio inserviant. Porro, se, non ignobilis alicujus aut contemnendi animalis, curam suscepisse; ut enim, humani generis pretium agnoscas, UNIGENITUS DEI FILIUS, homo factus est adeoque naturam assumptam sua dignatione nobilitavit. Denique, nec se communi sorte, exemptum esse, sed iisdem legibus mortalitatis, iisdem casibus et ærumnis, obnoxium atque expositum, quibus alii quilibet; quo diligentius et quidem teneriori cum affectu, ipse plane ὁμοιοπαθῆς ægrotantibus opem ferre conetur."

The following are some quotations, taken at random, from his various treatises and letters, in which we may see what he himself was as a practitioner, and what were his views as to the only way in which Medicine, as an art, could be advanced.

In his Epistle to Dr. Mapletoft, prefixed to the "Observationes Medicæ," his first publication, when he was 42 years of age, he gives his friend a long and entertaining account of his early professional life, and thus proceeds—

"Having returned to London, I began the practice of Medicine, which when I studied curiously with most intent eye (*intento admodum oculo*) and utmost diligence, I came to this conviction, which to this day increases in strength, that our art is not to be better learned than by its exercise and use; and that it is likely in every case to prove true, that those who have directed their eyes and their mind the most accurately and diligently to the natural phenomena of diseases, will excel in eliciting and applying the true indications of cure. With this thread as my guide, I first applied my mind to a closer observation of fevers, and after no small amount of irksome waiting, and perplexing mental agitations, which I had to endure for several years, I at last fell upon a method by which, as I thought, they might be cured, which method I some time ago made public at the urgent request of my friends."

He then refers to the persecution and calumnies he had been exposed to from the profession, who looked upon him as a pestilent fellow, and a setter forth of strange doctrines; and adopts the noble saying of Titus Tacitus, in reply to Metellus—

“It is easy to speak against me when I make no reply; you have learned to speak evil; I, my conscience bearing me witness, have learned to despise evil-speaking; you are master of your tongue, and can make it utter what you list; I am master of my ears, and can make them hear without being offended.”

And, after making the reference we have already mentioned, to his method having had the sanction and assistance of Locke, he thus concludes in regard to the ultimate success of his newly discovered way—

“As concerns the future, I cast the die, not over-careful how it may fall, for, since I am now no longer young, and have, by the blessing of the Almighty, a sufficient provision for the remainder of my journey, (*tantum mihi est viatici, quantum restat viæ.*) I will do my best to attain, without trouble to myself or others, that measure of happiness so beautifully depicted by Politian:—

‘Felix ille animi, divisque simillimus ipsis,
Quem non mendaci resplendens gloria fuco
Sollicitat, non fastosi mala gaudia luxus.
*Sed tacitos sinit ire dies, et paupere cultu
Exigit innocuæ tranquilla silentia vitæ.*”

We shall now give more fully his peculiar views, and in order to render him due honor for originating and acting upon them, we must remember in the midst of what a mass of errors and prejudices, of theories actively mischievous, he was placed, at a time when the mania of hypothesis was at its height, and when the practical part of his art was over-run and stultified by vile and silly nostrums. We must have all this in our mind, or we shall fail in estimating the amount of independent thought, of courage and uprightness, and of all that deserves to be called virtue and magnanimity, which was involved in his thinking, and writing, and acting as he did.

“The improvement of physic, in my opinion, depends, 1st, Upon collecting, as genuine and natural, a description or history of diseases as can be procured; and, 2nd, Upon laying down a fixed and complete method of cure. With regard to the history of diseases, whoever considers the undertaking deliberately, will perceive that a few such particulars must be attended to: 1st, All diseases should be described as objects of natural history, with the same exactness as is done by botanists, for there are many diseases that come under the same genus, and bear the same name,

that being specifically different, require a different treatment. The word *carduus*, or thistle, is applied to several herbs, and yet a botanist would be inaccurate and imperfect who would content himself with a generic description. Furthermore, when this distribution of distempers into *genera* has been attempted, it has been to fit into some hypothesis, and hence this distribution is made to suit the bent of the author rather than the real nature of the disorder. How much this has obstructed the improvement of physic, any man may know. In writing, therefore, such a natural history of diseases, every merely philosophical hypothesis should be set aside, and the manifest and natural phenomena, however minute, should be noted with the utmost exactness. The usefulness of this procedure cannot be easily over-rated, as compared with the subtle inquiries and trifling notions of modern writers; for can there be a shorter, or indeed any other way, of coming at the morbid causes, or of discovering the curative indications, than by a certain perception of the peculiar symptoms? By these steps and helps it was, that the father of physic, the great Hippocrates, came to excel. *His theory, Θεωρία, being no more than an exact description or view of Nature.* He found that Nature alone often terminates diseases, and works a cure with a few simple medicines, and often enough with no medicines at all. If only one person in every age had accurately described, and consistently cured, but a single disease, and made known his secret, physic would not be where it now is; but we have long since forsook the ancient method of cure, founded upon the knowledge of *conjunct causes*, insomuch that the art, as at this day practiced, is rather the art of talking about diseases than of curing them. I make this digression in order to assert, that the discovering and assigning of remote causes, which now-a-days so much engrosses the minds and feeds the vanity of curious inquirers, is an impossible attempt, and that only immediate and *conjunct causes* fall within the compass of our knowledge.” Or, as he elsewhere pithily states it:—“*Cognitio nostra, in rerum cortice, omnis ferme versatur, ac ad το ὅτι sive quod res hoc modo se habeat, fere tantum assurgit; το διότι, sive rerum causas, nullatenus attingit.*”

His friend Locke could not have stated the case more clearly or sensibly. It is this doctrine of “*conjunct causes*,” this necessity for watching the action of compound and often opposing forces, and the having to do all this not in a machine, of which, if you have seen one you have seen all, but where each organism has often as much that is different from as common with all others; it is this which takes medicine out of the category of exact sciences, and puts it into that which includes politics, ethics, navigation, and practical engineering, in all of which, though there are principles, and those principles quite within the scope of human rea-

son, yet the application of these principles must, in the main, be left to each man's skill, presence of mind, and judgment, as to the case in hand.

It is in medicine as in the piloting of a ship—rules may be laid down, principles expounded, charts exhibited; but when a man has made himself master of all these, he will often find his ship among breakers and quicksands, and must at last have recourse to his own craft and courage. Gausubius, in his admirable chapter, "*De disciplina Medici*," thus speaks of the *reasonable* certainty of medicine as distinguished from the absolute certainty of the exact sciences, and at the same time gives a very just idea of the infinite (as far as concerns our limited powers of sense and judgment) multiplicity of the phenomena of disease:—"Nec vero sufficit medicum communia modo intueri; oportet et cuius homini propria, quæ quidem diversitas tam immensa occurrit ut nulla observationum vi exhauriri possit. Solâ denique contemplatione non licet acquiescere, inque obscuris rebus suspendere iudicium, donec lux affulgeat. Actionem exigit officium. Captanda hinc agendi occasio, quæ sæpe præceps, per conjecturam cogit determinare, quod per scientiam sat cito nequit. Audiant hæc obtrectatores, et cum didicerint scientias puras, ab iis quas applicatas vocant, contemplativas à practicis, distinguere, videant quo jure medicinam præ aliis, ut omnis certi expertem, infament." It would not be easy to put more important truth into clearer expression. Conjecture, in its good sense, as meaning the throwing together of a number of the elements of judgment, and taking what upon the whole is the most likely, and acting accordingly, has, and will ever have, a main part to play in any art that concerns human nature, in its entirety and in action. When in obscure and dangerous places, we must not contemplate, we must act, it may be precipitately. This is what makes medicine so much more of an art than a science, and dependent so much more upon the agent than upon his instructions; and this it is that makes us so earnest in our cautions against the supposition that any amount of scientific truth, the most accurate and extensive, can in medicine supersede the necessity of the recipient of all this knowledge having, as Richard Baxter says, by nature "a special sagacity,—a naturally searching and conjecturing turn of mind." Moreover, this faculty must be disciplined and exercised in its proper function, by being not a hearer only, but also a doer,

an apprentice as well as a student, and by being put under the tutorage of a master who exercises as well as expounds his craft. This native gift and its appropriate object have been so justly, so beautifully described by Hartley Coleridge in his "*Life of Fothergill*," that we cannot refrain from closing our remarks on this subject by quoting his words. Do our readers know his "*Biographia Borealis*?" If they do, they will agree with us in placing it among the pleasantest books in our language, just such a one as Plutarch, had he been an Englishman, would have written:—"There are certain inward gifts, more akin to genius than to talent, which make the physician prosper, and deserve to prosper; for medicine is not like practical geometry, or the doctrine of projectiles, an application of an abstract, demonstrable science, in which a certain result may be infallibly drawn from certain data, or in which the disturbing forces may be calculated with scientific exactness. It is a *tentative art*, to succeed in which demands a quickness of eye, thought, tact, invention, which are not to be learned by study, nor, unless by connatural aptitude, to be acquired by experience; and it is the possession of this *sense*, exercised by patient observation, and fortified by a just reliance on the *vis medicatrix*, the self-adjusting tendency of nature, that constitutes the true physician or healer, as imagination constitutes the poet, and brings it to pass, that sometimes an old apothecary, not far removed from an old woman, and whose ordinary conversation savors, it may be, largely of twaddle, who can seldom give a rational account of a case or its treatment, acquires, and justly, a reputation for infallibility, while men of talent and erudition are admired and neglected; *the truth being, that there is a great deal that is mysterious in whatever is practical.*"

But to return to our author. He was the first to point out what he called the varying "constitutions" of different years in relation to their respective epidemics, and the importance of watching the type of each new epidemic before settling the means of cure. In none of his works is his truly philosophical spirit, and the subtlety and clearness of his understanding, shown more signally than in his successive histories of the epidemics of his time. Nothing equal to them has ever appeared since; and the full importance of the principles he was the first to lay down is only now beginning to be fully acknowledged. His confession as to his entirely failing to discover what made one epidemic so to differ

from another, has been amply confirmed by all succeeding observers. He says,—

"I have carefully examined the different constitutions of different years as to the manifest qualities of the air, yet I must own I have hitherto made no progress, having found that years, perfectly agreeing as to their temperature and other sensible properties, have produced very different tribes of diseases, and *vice versa*. The matter seems to stand thus: there are certain constitutions of years that owe their origin neither to heat, cold, dryness, or moisture, but upon a certain secret and inexplicable alteration in the bowels of the earth, whence the air becomes impregnated with such kinds of *effluvia* as subject the human body to distempers of a certain specific type."

As to the early treatment of a new epidemic, he says,—“My chief care, in the midst of so much darkness and ignorance, is to wait a little, and proceed very slowly, especially in the use of powerful remedies, in the meantime observing its nature and procedure, and by what means the patient was relieved or injured;” and he concludes by regretting the imperfection of his observations, and hoping that they will assist in beginning a work that, in his judgment, will greatly tend to the advantage of mankind. Had his successors followed in his track with equal sagacity and circumspection, our knowledge of these destructive and mysterious incursions of disease would, in all likelihood, have been greatly larger and more practical than it is now.

Sydenham is well known to have produced a revolution in the management of the small-pox, and to have introduced a method of treatment upon which no material improvement has subsequently been made. We owe the cool regimen to him. Speaking of the propriety of attending to the wishes of the sufferer, he says, with equal humanity and good sense—

“A person in a burning fever desires to drink freely of some small liquor; but the rules of art, built upon some hypothesis, having a different design in view, thwart the desire, and instead thereof, order a cordial. In the meantime the patient, not being suffered to drink what he wishes, nauseates all kinds of food, but art commands him to eat. Another, after a long illness, begs hard, it may be, for something odd, or questionable; here, again, impertinent art thwarts him and threatens him with death. How much more excellent the aphorism of Hippocrates—‘Such food as is most grateful, though not so wholesome, is to be preferred to that which is better, but distasteful.’ Nor will this appear strange, if it be considered that the all-wise Creator has formed

the whole with such exquisite order, that, as all the evils of nature eminently conspire to complete the harmony of the whole work, so every being is endowed with a *divine direction or instinct*, which is interwoven with its proper essence, and hence the safety of mankind was provided for, who, notwithstanding all our doctoring, had been otherwise in a sad enough plight.’ Again,—‘He would be no honest and successful pilot who were to apply himself with less industry to avoid rocks and sands, and bring his vessel safely home, than to search into the causes of the ebbing and flowing of the sea, which, though very well for a philosopher, is foreign to him whose business it is to secure the ship. So neither will a physician, whose province it is to cure diseases, be able to do so, though he be a person of great genius, who bestows less time on the hidden and intricate method of nature, and adapting his means thereto, than on curious and subtle speculations.’”

The following is honest enough:—

“Indeed, if I may speak my mind freely, I have been long of opinion that I act the part of an honest man and a good physician as often as I refrain entirely from medicines, when, upon visiting the patient, I find him no worse to-day than he was yesterday; whereas, if I attempt to cure the patient by a method of which I am uncertain, *he will be endangered both by the experiment I am going to make on him and by the disease itself; nor will he so easily escape two dangers as one.*”

“That practice, and that alone, will bring relief to the sufferer, which elicits the curative indications from the phenomena of the diseases themselves, and confirms them by experience, by which means the great Hippocrates made himself immortal. And had the art of medicine been delivered by any one in this wise, though the cure of a disease or two might come to be known to the common people, yet the art in its full extent would then have required men more prudent and skillful than it does now, nor would it lose any of its credit; for as there is in the operations of Nature, (on the observations of which a true medical praxis is founded,) more of nicety and subtlety than can be found in any art supported on the most specious hypothesis, so the science of Medicine which Nature teaches will exceed an ordinary capacity in a much greater degree than that which mere Philosophy teaches.”

There is much profound truth in this. Observation, in its strict sense, is not every man's gift, and but few men's actual habit of mind. Newton used to say, that if in any one way he differed from other men, it was in his power of continued attention—of faithful, unbroken observation; his ladder had all its steps entire, and he went up with a composed, orderly foot. It requires more strength and fineness of mind, more of what deserves to be called genius, to make a series of genuine observations in Medicine, or any

other art, than to spin any amount of nice hypotheses, or build any number of "castella in aere," as Sydenham calls them. The observer's object is, and it is no mean one,—

"To know *what's what*, and that's as high
As Metaphysic wit can fly."

Sydenham adds, "Nor will the publication of such observations *diminish, but rather increase the reputation of our art*, which, being rendered more difficult, as well as more useful, only men of sagacity and keen sound judgment would be admitted as physicians." How true to the spirit of his great master in his *Novum Organum*, "Nature is only subdued by submission!" "The subtilty of nature is far beyond that of sense, or of the understanding, and the specious meditations and theories of mankind are but a kind of insanity, only there is no one to stand by and observe it." There is a very remarkable passage in Sydenham's "Treatise of the Dropsy," in which, after quoting this curious passage from Hippocrates, "certain physicians and philosophers say that it is impossible for any man to understand medicine without knowing the internal structure of man; for my part, I think that what they have written or said of nature pertains less to the medical than the pictorial art," he asserts not only his own strong conviction of the importance of a knowledge of minute anatomy to the practitioner, but also his opinion that what Hippocrates meant was to caution against depending *too much* on, and expecting too much help from anatomical researches, to the superseding of the scrupulous observation of living phenomena, of successive actions.* "For in all diseases, acute and

* As far as the cure of diseases is concerned, Medicine has more to do with human *Dynamics* than *Statics*, for whatever be the essence of life—and as yet this $\tau\iota\ \theta\epsilon\iota\omega\nu$, this *nescio quid divinum*, has defied all scrutiny—it is made known to us chiefly by certain activities or changes. It is the tendency at the present time of medical research to *reverse this order*. Morbid anatomy, microscopical investigations, though not confined to states or conditions of parts, must regard them fully more than actions and functions. This is probably what Stahl means when he says, "*ubi Physicus desinit, Medicus incipit*;" and in the following passage of his rough Tudesque Latin, he plainly alludes to the tendency, in his day, to dwell too much upon the materials of the human body, without considering its actions "ut vivens." The passage is full of the subtilty and fire and depth of that wonderful man. "Undique hinc *materia* advertitur animus, et quæ crassius in sensum impingit conformatio, et mutua proportio corporea consideratur; *motuum ordo*, vis, et absoluta

chronic, it must be owned there is an inscrutable $\tau\iota\ \theta\epsilon\iota\omega\nu$, a specific property which eludes the keenest anatomy."

He then goes on to say, that as Hippocrates censured the abuse of anatomy, so in his own day there were many who, in like manner, raised hopes for Physic from discoveries in Chemistry, which, in the nature of things, *never* could be realized, and which only served to distract from the true Hippocratic method of induction; "for the chief deficiency of medicine is not a want of efficacious medicine. Whoever considers the matter thoroughly, will find that the principal defect on the part of physic proceeds, *not from a scarcity of medicines to answer particular intentions, but from the want of knowing the intentions to be answered*, for an apothecary's apprentice can tell me what medicine will purge, vomit, or sweat, or cool; but a man must be conversant with practice who is able to tell me when is the properest time for administering any of them."

He is constantly inculcating the necessity of getting our diagnostic knowledge at first hand, ridiculing those descriptions of disease which the manufacturers of "Bodies of Medicine" make up in their studies, and which are oftener compositions than portraits, or at the best bad copies, and which the young student will find it hard enough to identify in real life. There is too much of this we fear still; and Montaigne, who rejoices in giving a sly hit to his cronies, the doctors, might still say with some reason, "like him who paints the sea, rocks, and havens, and draws the model of a ship as he sits safe at his table; but send him to sea and he knows not how or where to steer: so doctors oftentimes make such a description of our maladies as a town-crier does of a lost dog or donkey, of such a color and height, such ears, &c.; *but bring the very animal before him, and he knows it not for all that*."

Everywhere our author acknowledges the *vis medicalrix naturæ*, by which alone so many diseases are cured, and without or against which none, and by directing and helping which medicine best fulfills its end.

magis in materiam *energia*, tempora ejus, gradus, vices, maxime autem omnium, *finis* obiter in animum admittuntur." The human machine has been compared to a watch, and some hope that in due time doctors will be as good at their craft as watchmakers are at theirs; but watchmakers have not to mend their work *while it is going*; this makes all the difference.

"For I do not think it below me or my art to acknowledge, with respect to the cure of fevers and other distempers, that when no manifest indication pointed out to me what should be done, I have consulted my patient's safety and my own reputation, most effectually, *by doing nothing at all*. But it is much to be lamented that abundance of patients are so ignorant as not to know, that it is sometimes as much the part of a skillful physician to do nothing, as at others to apply the most energetic remedies, whence they not only deprive themselves of fair and honorable treatment, but impute it to ignorance or negligence."

We conclude these extracts with a picturesque description. It is a case of "the hysterics" in a man.

"I was called not long since to an ingenious gentleman who had recovered from a fever, but a few days before he had employed another physician, who blooded and purged him soundly, and forbade him the use of flesh. When I came I found him up, and heard him talking sensibly. I asked why I was sent for, to which one of his friends replied with a wink, wait and you'll see. Accordingly, sitting down and entering into discourse with the patient, I perceived his under lip was thrust outward, and in frequent motion, as happens to peevish children, who pout before they cry, which was succeeded by the most violent fit of crying, with deep and convulsive sobs. I conceived this was occasioned partly by his long illness, partly by the previous evacuations, and partly by emptiness; I therefore ordered him a roast chicken, and a pint of canary."

In making these selections we have done our author great injustice, partly from having to give them either in Swan's translation or our own, and thereby losing much of the dignity and nerve—the flavor, or what artists would call the crispness of the original; partly also from our being obliged to exclude strictly professional discussions, in which, as might be expected, his chief value and strength lie.

We know nothing in medical literature more exquisite than his letter to Dr. Cole on the hysterical passion, and his monograph of the gout. Well might Edward Hanes, the friend of Addison, in his verses on Sydenham, thus sing:—

"Sic te scientem non faciunt libri
Et dogma pulchrum; sed sapientia
Enata rebus, mensque facti
Experiens, animusque felix."

It would not be easy to over-estimate the permanent impression for good, which the writings, the character, and the practice of Sydenham have made on the art of healing in England, and on the Continent generally. In the writings of Boerhaave, Stahl, Gaubius, Pinel, Bordeu, Haller, and many others,

he is always spoken of as the father of rational medicine; as the first man who applied to his profession the Baconian principles of interpreting and serving nature, and who never forgot the master's rule, "*non fingendum aut excogitandum, sed inveniendum, quid natura aut faciat aut ferat*." He was what Plato would have called an "*artisan*," as distinguished from a doctor of abstract science. But he was by no means deficient in either the capacity or the relish for speculative truth. Like all men of a large practical nature, he could not have been what he was, or done what he did, without possessing and often exercising the true philosophizing faculty. He was a man of the same quality of mind in this respect with Watt, Franklin, and John Hunter, in whom speculation was not the less genuine that it was with them a means rather than an end.

This distinction between the *science* and the *art* or craft, or as it was often called the *cunning* of medicine, is one we have already insisted upon, and the importance of which we consider very great, in the present condition of this department of knowledge and practice. We are now-a-days in danger of neglecting our art in mastering our science, though medicine must always be *more* of an art than of a science. It being the object of the student of physic to learn or know some thing or things, in order to be able safely, effectually and at once, to do some other thing; and inasmuch as human nature cannot contain more than its fill, a man may not only have much scientific truth in his head, which is useless, but it may shut out and hinder, and even altogether render ineffectual, the active, practical, artistical faculties, for whose use his knowledge was primarily got. It is the remark of a profound thinker, that "*all professional men labor under a great disadvantage in not being allowed to be ignorant of what is useless*; every one fancies that he is bound to receive and transmit whatever is believed to have been known."

This subject of art and science is hinted at, with his usual sagacity, by Plato, in a very singular passage in his *Theætetus*:—"Particulars," he says, "*are infinite, and the higher generalities give no sufficient direction in medicine; but the pith of all sciences, that which makes the artisan differ from the inexpert, is in the middle propositions, which, in every particular knowledge, are taken from tradition and experience*."* It would not be

* Being anxious to see what was the context of this remarkable passage, which Bacon quotes, as if

easy to convey in fewer words, more of what deserves the name of the philosophy of this entire subject, and few things would be more for the advantage of the best interests of all arts and sciences, and all true progress in human knowledge and power, than the taking this passage and treating it exegetically, as a divine would say, bringing out fully its meaning, and illustrating it by examples. Scientific truth is to the mind of a physician what food is to his body; but, in order to his mind being nourished and growing by this food, it must be assimilated—it must undergo a vital internal change—must be transformed, transmuted, and lose its original form. This destruction of formal identity—this losing of itself in being received into the general mass of truth—is necessary to bring abstract truth into the condition of what Plato calls “the middle propositions,” or, as Mr. J. S. Mill calls them, the *generalia* of knowledge.* These are such truths as

verbatim, in his advancement of learning, we hunted through the Theætetus, but in vain. We set two friends, thorough-bred Grecians, upon the scent, but they could find no such passage. One of them then spoke to Sir William Hamilton, and he told him that he had marked that passage as not being a literal translation of any sentence in Plato's writings. He considered it a quotation from memory, and as giving the substance of a passage in the Philebus, which occurs in the 6th and 7th of the forty-two sections of that Dialogue. Perhaps the sentence which comes nearest to the words of Bacon is the last in the 6th section, beginning with the words οἱ δὲ νῦν τῶν ἀνθρώπων σοφοί. The τὰ δὲ μέσα αὐτοὺς ἐκπεύγει, of which he speaks, seem to be equivalent to “the middle propositions.”

* The following we give as a sort of abstract of an admirable chapter in Mill's Logic on “The Logic of Art.”—An art, or a body of art, consists of the rules, together with as much of the speculative propositions as comprise the justification of those rules. Art selects and arranges the truths of science in the most convenient order for practice, instead of the order most convenient for thought—science following one cause to its various effects, while art traces one effect to its multiplied and diversified causes and conditions. *There is need of a set of intermediate scientific truths, derived from the higher generalities of science, and destined to serve as the generalia or first principles of art.* The art proposes for itself an end to be gained, defines the end, and hands it over to science. Science receives it, studies it as a phenomenon or effect, and, having investigated its causes and conditions, sends it back to Art, with a rationale of its cause or causes, but nothing more. Art then examines their combinations, and according as any of them are or are not in human power, or within the scope of its particular end, pronounces upon their utility, and forms a rule of action. *The rules of art do not attempt to comprise more conditions than require to be attended to in ordinary cases; and therefore are always imperfect.*

have been appropriated, and vitally adopted, by the mind, and which, to use Bacon's strong words, have been “drenched in flesh and blood,” have been turned in “*succum et sanguinem*,” for man's mind, any more than his body, cannot live on mere elementary substances; he must have fat, albumen, and sugar; he can make nothing of their elements, bare carbon, azote, or hydrogen. And more than this, as we have said, he must *digest* and *disintegrate* his food before it can be of any use to him. In this view, as in another and a higher, we may use the sacred words,—“That which thou sowest is not quickened except it die: except a corn of wheat fall into the ground and die, it abideth alone; but if it die, it bringeth forth much fruit;” for as it is a law of vegetable life, that a seed does not begin to pass into a new form, does not begin to grow into a plant, until its nature is changed, and its original condition is broken up, until it “dies” in giving birth to something better,—so is it with scientific truth, taken into or planted in the mind—it must die, else it abides alone—it does not germinate.

Had Plato lived now, he might justly have said, “particulars are infinite.” Facts, as such, are merely so many units, and are often rather an encumbrance to the practical man than otherwise. These “middle propositions” stand midway between the facts in their infinity and speculative truth in its abstract inertness; they take from both what they need, and they form a *tertium quid*, upon which the mind can act practically, and reason upon in practice, and form rules of action. Sydenham, Hippocrates, Abernethy, Pott, Hunter, Baillie, Abercrombie, and such like, among physicians, are great in the region of the “middle propositions.” They selected their particulars—their instances, and they made their higher generalities come down, they appropriated them, and turned them into blood, bone, and sinew.

The great problem in the education of young men for medicine in our times, is to know how to make the infinity of particulars, the prodigious treasures of mere science, available for practice—how the art may keep pace with, and take the maximum of good out of the science. *We have often thought that the apprenticeship system is going too much into disrepute.* It had its manifest and great evils; but there was much good got by it that is not to be got in any other way. The *personal authority*, the *imitation* of their master—the watching his doings, and picking up his practical odds and ends—the coming

under the influence of his mind, following in his steps, looking with his eyes, accumulating a stock of knowledge, multifarious it might be, the good of which was not fully known till after-years explained and confirmed its worth. There were other practical things besides jokes learned and executed in the apprentices' room, and there were the friendships for life, on which so much, not merely of the comfort, but the progress of a physician depends. Now everything, at least most, is done in public, in classes; and it is necessarily with the names of things rather than the things themselves, or their management, that the young men have chiefly to do. The memory* is exercised more than the senses or the judgment; and when the examination comes, as a matter of course the student returns back to his teacher as much as possible of what he has received from him, and as much as possible in his very words. He goes over innumerable names. There is little opportunity even in anatomy for testing his power or his skill as a workman, as an independent observer and judge, under what Sir James Clark justly calls "*the demoralizing system of cramming.*" He repeats what is already known; he is not able to say how all or any of this knowledge may be turned to practical account. Epictetus cleverly illustrates this very system and its fruits—"As if sheep, after they have been feeding, should present their shepherds with *the very grass itself which they had cropped and swal-*

lowed, to show how much they had eaten, instead of concocting it into wool and milk."

Men of the "middle propositions" are not clever, glib expounders of their reasons, they prefer doing a thing to speaking about how it may be done. We remember hearing a young doctor relate how, on one occasion when a student, he met with the late Dr. Abercrombie, when visiting a man who was laboring under what was considered malignant disease of the stomach. He was present when that excellent man first saw the patient along with his regular attendant. The doctor sauntered into the room in his odd, indifferent way, which many must recollect; scrutinized all the curiosities on the mantelpiece; and then, as if by chance, found himself at his patient's bedside; but when there his eye settled upon him intensely; his whole mind was busily at work. He asked a few plain questions; spoke with great kindness, but very briefly; and, coming back to consult, he said, to the astonishment of the surgeon and the young student, "the mischief is all in the brain, the stomach is affected merely through it. The case will do no good; he will get blind and convulsed, and die." He then in his considerate, simple way, went over what might be done to palliate suffering and prolong life. He was right. The man died as he said, and on examination the brain was found softened, the stomach sound. The young student, who was intimate with Dr. Abercrombie, ventured to ask him what it was in the look of the man that made him know at once. "I can't tell you, I can hardly tell myself; but I rest with confidence upon the exactness and honesty of my past observations. I remember the result, and act upon it; but I can't put you, or, without infinite trouble, myself, in possession of all the steps." "But would it not be a great saving if you could tell others?" said the young doctor. "*It would be no such thing; it would be the worst thing that could happen to you; you would not know how to use it. You must follow in the same road, and you will get as far, and much farther. You must miss often before you hit. You can't tell a man how to hit; you may tell him what to aim at.*" "Was it something in the eye?" said his inveterate querist. "Perhaps it was," he said good-naturedly; "but don't you go and blister every man's *occiput*, whose eyes are, as you think, like his."*

* Professor Syme, in his Letter to Sir James Graham on the Medical Bill, in which, in twelve pages, he puts the whole of this vexed question on its true footing, makes these weighty observations:—"As a teacher of nearly twenty-five years' standing, and well acquainted with the dispositions, habits, and powers of medical students, I beg to remark, that the system of repeated examinations on the same subject by different Boards, especially if protracted beyond the age of twenty-two, is greatly opposed to the acquisition of sound and useful knowledge. Medicine, throughout all its departments, is a science of observation; memory alone, however retentive, or diligently assisted by teaching, is unable to afford the qualifications for practice, and it is only by digesting the facts learned, through reflection, comparison, and personal research, that they can be appropriated with improving effect; *but when the mind is loaded with the minutiae of elementary medical and collateral study, it is incapable of the intense and devoted attention essential to attaining any approach to excellence in practical medicine and surgery. It has accordingly always appeared to me, that the character of medical men depends less upon what passes during the period even of studentship than upon the mode in which they spend the next years, when their trials and examinations being over, the whole strength of a young and disciplined intellect may be preparing itself for the business of life.*"

* This is very clearly stated by Dr. Mandeville, the acute but notorious author of the Fable of the

It would be well for the community, and for the real good of the profession, if the ripe experience, the occasional observations of such men as Sydenham and Abercrombie, formed the main amount of medical books, instead of Vade Mecums, Compendiums, Systems, Handbooks, on the one hand, and the ardent but unripe lucubrations of very young men. It is said that *facts* are what we want, and every periodical is filled with papers by very young physicians made up of practical facts. What is fact? we would ask; and are not many—most of the new facts, little else than the opinions of the writers about certain phenomena, the reality, and assuredly the importance of which, is by no means made out so strongly as the opinions about them are stated.* In this intensely scientific age, we need some wise heads to tell us what not to learn, fully as much as what to learn. Let us by all means avail ourselves of the unmatched advantages of science, and of the discoveries which every day is multiplying with a rapidity which confounds; let us convey into and carry in our heads as much as we safely can, of new knowledge from Chemistry, Statistics, the Microscope, the Stethoscope, and all new helps and methods; *but let us go on with the old serious diligence*,—the *experientia* as well as the *experimenta*—the forging, and directing, and qualifying the mind as well as the furnishing it, and what is called accomplishing it. Let us, in the midst of all the wealth

Bees, in his Dialogues on the Hypochondria, one of his best works, as full of good sense and learning as of wit. "If you please to consider that there are no words in any language for a hundredth part of all the minute differences that are obvious to the skillful, you will soon find that a man may know a thing perfectly well, and at the same time not be able to tell you why or how he knows it. The practical knowledge of a physician, or at least the most considerable part of it, is the result of a large collection of observations that have been made on the minutiae of things in human bodies in health and sickness; but likewise there are such changes and differences in these minutiae as no language can express; and when a man has no other reason for what he does than the judgment he has formed from such observations, it is impossible he can give you the one without the other,—that is, he can never explain his reasons to you, unless he could communicate to you that collection of observations, of which his skill is the product."

* Louis, in the preface to the first edition of his *Researches on Phthisis*, says—"Few persons are free from delusive mental tendencies, especially in youth, interfering with true observations, and I am of opinion that, generally speaking, we ought to place less reliance on cases collected by very young men; and, above all, not intrust the task of accumulating facts to them exclusively."

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pouring in from without, keep our senses and our understandings well exercised on immediate work. Let us look with our own eyes, feel with our own fingers.

One natural consequence of the predominance in our days of scientific element, is, that the elder too much serves the younger. The young man teaches, and the old man learns. This is excellent, when it is confined to the statement of discovery, or the laws of knowledge or of matter. But the young men have now almost the whole field to themselves. Chemistry and Physiology have become, to all men above forty, impossible sciences; they dare not meddle with them; and they keep back from giving to the profession their own personal experience in matters of practice, from the feeling that much of their science is out of date; and the consequence is, that, even in matters of practice, the young men are in possession of the field.

Let it not be supposed that we despair of Medicine gaining the full benefit of the general advance in knowledge and usefulness. Far from it. We believe there is more of exact diagnosis, of intelligent, effectual treatment of disease, that there are wider views of principles—directer, ampler methods of discovery, at this moment in Britain than at any former time; and we have no doubt that the augmentation is still proceeding, and will defy all calculation. But we are likewise of opinion, that the office of a physician, in the highest sense, will become fully more difficult than before, will require a greater compass and energy of mind, as working in a wider field, and using finer weapons; and that there never was more necessity for making every effort to strengthen and clarify the judgment and the senses by inward discipline, than when the importance and the multitude of the objects of which they must be cognizant, are so infinitely increased. The middle propositions must be attended to, and filled up as the particulars and the higher generalities crowd in.

It would be out of place in a Journal such as this, and a paper so desultory as the present, to enter at large upon the subjects now hinted at—the education of a physician—the degree of certainty in medicine—its progress and prospects, and the beneficial effects it may reasonably expect from the advance of the purer sciences. But we are not more firmly persuaded of any thing than of the importance of such an inquiry, made largely, liberally, and strictly, by a man at once deep, truthful, knowing, and clear.

How are we to secure for the art of discerning, curing and preventing disease, the *maximum* of good and the *minimum* of mischief, in availing ourselves of the newest discoveries in human knowledge? To any one wishing to look into this most interesting, and at the present time, *vital* question, we would recommend a paper by the accomplished President of the Edinburgh College of Physicians, admirable equally in substance and in form, entitled, "On the Signification of Fact in Medicine, and on the hurtful effects of the incautious use of such modern sources of fact as the microscope, the stethoscope, chemical analysis, statistics, &c.;" it may be found in No. 177 of the Edinburgh Medical and Surgical Journal. We merely give a sample or two, in which our readers will find in better expression much of what he have already referred to. "*Medicine still is, and must continue for ages to be an empirico-rationalism.*" "A sober thinker can hardly venture to look forward to such an advanced state of chemical rationalism as would be sufficient for pronouncing *a priori*, that sulphur would cure *scabies*, iodine goitre, citric acid the scurvy, or carbonate of iron *neuralgia*." "Chemistry promises to be of immediate service in the practice of medicine, not so much by offering us a rational chemical pathology, but by enlarging the sources from which our empirical rules are to be drawn." Here we have our "middle propositions." "The great bulk of practical medical knowledge is obviously the fruit of individual minds, naturally gifted for excellence in medicine;" but the whole paper deserves serious continuous study. We would also, in spite of some ultraisms in statement and expression, the overflowings of a more than ordinarily strong and ardent, and honest mind, recommend heartily the papers of Dr. Forbes, which appeared at the close of the British and Foreign Medical Review, in which he has, with what we cannot call else or less than magnanimity, spoken so much wholesome, though it may be, unpalatable truth; and, finally, we would send every inquiring student who wishes to know how to think and how to speak on this subject at once with power, clearness, and compactness, and be both witty and wise, to Dr. Latham's three little volumes on Clinical Medicine. The first two lectures in the earliest volume are "lion's marrow," the very pith of sense and sound-mindedness. We give a morsel:—

"The medical men of England do and will continue to keep pace with the age in which

they live, however rapidly it may advance. I wish to see physicians still instituted in the same discipline, and still reared in fellowship and communion with the wisest and best of men, and that not for the sake of what is ornamental merely, and becoming to their character, but because I am persuaded that that discipline which renders the mind most capacious of wisdom and most capable of virtue, can hold the torch and light the path to the sublimest discoveries in every science. *It was the same discipline which contributed to form the minds of Newton and of Locke, of Harvey and of Sydenham.*"

He makes the following beautiful remark in leading his pupils into the vast ward of St. Bartholomew's:—

"In entering this place, even this vast hospital, where there is many a significant, many a wonderful thing, you shall take me along with you, and I will be your guide. *But it is by your own eyes, and your ears and your own minds, and (I may add) by your own hearts, that you must observe, and learn, and profit. I can only point to the objects, and say little else than 'See here and see there.'*"

This is the great secret, the coming to close quarters with your object, having immediate, not mediate cognizance of the materials of study and care, *apprehending* first, and then *comprehending*. For, to use an illustration, which no one need ever weary of giving or receiving, a good practical physician is more akin to the working-bee than to the spider or the ant. Instead of spinning, like the schoolmen of old, endless webs of speculations out of their own bowels, in which they were themselves afterward as frequently caught and destroyed—as any one else, or hoarding up, grain after grain, the knowledge of other men, and thus becoming "a very dungeon of learning," in which (*Hibernice*) they lose at once themselves and it,—they should rather be like the brisk and public-hearted bee, taking, by a divine instinct, her own industry, and the accuracy of her instrument, honey from all flowers. "*Formica colligit et utitur, ut faciunt empirici; aranea ex se fila educit neque a particularibus materiam petit; apis denique cæteris se melius gerit, hæc indigesta a floribus mella colligit, deinde in viscerum cellulas concocta maturat, iisdem tandem insudat donec ad integram perfectionem perduxerit.*"

We had intended giving some account of the bearing that the general enlightenment of the community has upon Medicine,—and especially of the value of the labors of such men as the late Dr. Combe, Dr. Henry Marshall, Sir James Clark, and others, in the

collateral subjects leading into, and auxiliary to pure Medicine,—but we have no space to do them any measure of justice. The full importance, and the full possibility of the *prevention* of disease in all its manifold, civil, moral, and personal bearings, is not yet by any means adequately acknowledged; there are few things oftener said or less searched into than that prevention is better than cure.

Let not our young and eager doctors be scandalized at our views as to the comparative uncertainty of medicine as a science—such has been the opinion of the wisest and most successful of the art. Radcliffe used to say, that “when young, he had fifty remedies for every disease, and when old, one remedy for fifty diseases.” Dr. James Gregory said, “young men kill their patients, old men let them die.” Gaubius says, “*equidem candide dicam, plura me indies, dum in artis usu versor, dediscere quam dis-*

cere, et in crescente ætate, minui potius quam augeri, scientiam,” meaning by “*scientia*” an abstract systematic knowledge. And Bordeu gives as the remark of an old physician, “*J’étois dogmatique à vingt ans, observateur à trente, à quarante je fus empirique; je n’ai point de système à cinquante.*” And he adds, in reference to how far a medical man must personally know the sciences that contributed to his art, “Iphicrates, the Athenian general, was hard pressed by an orator before the people, to say what *he* was to be so proud, ‘Are you a soldier, a captain, an engineer, a spy, a pioneer, a sapper, a miner?’ ‘No,’ says Iphicrates, ‘I am none of these, but I command them all.’ So, if one asks me, are you an empiric, a dogmatist, an observer, an anatomist, a chemist, a microscopist? I answer, No, but I am captain of them all.”

SHADOW AND SUNSHINE.

BY JOHN EMMET.

“There’s a shade upon that fountain;
It will not linger there,
But the cloud now resting on it
Will leave it yet more fair.”—L. E. L.

THERE’S a shadow on the spirit,
But though it darkly clings,
Oh never, oh never fear it,
There’s morning on its wings.

For the shadow on the fountain
Is sunshine but in gloom,
And the sadness on the spirit
Doth herald joy to come.

Gloomy days were not created
To last above their day,
Hearts were never rendered gloomy
To be in gloom alway.

Light aye follows upon darkness,
Song-birds carol after showers,
And sad bosoms spring to gladness
Like the merry-hearted flowers.

So it is, and ever has been;
So it will be, never fear;
Wait one moment, joy is coming,
Shades are fleeing—day is here.

From Hogg's Instructor.

ALEXANDER SELKIRK, THE ORIGINAL ROBINSON CRUSOE.

WE are not certain whether Defoe's admirable romance, "The Adventures of Robinson Crusoe," is quite such a favorite with the "rising generation" of the present day as it was with their youthful progenitors. If it is, we feel some misgivings that we undertake a thankless task in directing the attention of the juvenile reader to the real prototype of that most interesting of all imaginary personages. So very much like a true narrative of facts has Defoe contrived to weave his imperishable fiction, that the young mind, if not the old, is unwilling to think of any one having sat for the portraiture save the veritable Robinson Crusoe himself. Nevertheless, such is the fact, and as truth is at all times preferable to fiction, even the most highly wrought, we cannot help embracing this opportunity of thanking honest John Howell* for the zeal with which he set about gleaning the history of the *bona fide* adventurer. This he accomplished with characteristic enthusiasm, some twenty years ago; yet it is singular that no second edition of his little work, so far as we are aware, has ever been called for—a circumstance which, perhaps, more than anything else, shows that the world did not care to be disabused of its belief in the ideal Robinson. It is true that the fact of Selkirk's having lived alone for four years and four months on an island, was known through the medium of several publications, prior to the fiction of Defoe, and from which he adopted the idea of his future work. Amongst others, it was made the subject of a paper in "The Englishman," by Sir Richard Steele, who saw and conversed with Alexander Selkirk. This account of him was published in 1713, six years before the production of Defoe's work. Still these notices had long been lost sight of by the general reader till Howell again revived them. Even his gathered statements, interesting as they certainly are, seem now in danger of experiencing a similar fate. We

shall, however, stir their remembrance once more, that our young readers may have a knowledge of the real as well as the imaginary Robinson Crusoe. There is, besides, a moral to be derived from his eventful life which may be studied to advantage.

Alexander Selkirk, or Selcraig, was the seventh son of John Selcraig and Euphan Mackie of Largo, in Fifeshire. The father was a shoemaker and tanner—most of the shoemakers in these days curing their own hides—and a man of some means. The property in which he lived, called Dunnochie, at the west end of Largo, was his own. Here Alexander was born in 1676. In boyhood he was naturally of a wayward temper, which humor was much aggravated by the ill-bestowed favor of his mother, who formed great expectations of her son because of his being the seventh, a charmed number, according to superstition. He seems to have early made choice of a seafaring life, and to have acquired some knowledge in navigation. That he soon became an able and expert seaman may be inferred from his subsequent history. Howell produces extracts from the session-records, to show that he was at home in 1701, as quarrelsome and reckless as could be well imagined.* In 1703, he was appointed sailing-master of the Cinque Ports galley, one of two privateer vessels sent out to the South Seas by a company under Captain Dampier, who had previously gained some reputation in that quarter of the world. In this expedition, however, he proved himself very ill-qualified for the command he had undertaken. His "arbitrary, unsettled turn of mind" led to continual disputes and heart-burnings, while their success in capturing prizes was by no means commensurate with their expectations. After the death of Captain Charles Pickering of the Cinque Ports, and the promotion of Lieutenant Thomas Stradling, to whom he had conceived

* The Life and Adventures of Alexander Selkirk, &c. By JOHN HOWELL.

* He was summoned before the session for creating a tumult in his father's house, and fighting with his brothers.

an inveterate dislike, Selkirk seems to have resolved upon making his escape as soon as possible. In the conduct of Captain Dampier he foresaw nothing but ruin to the expedition. A dream which he had at this time, to the effect that the Cinque Ports would be shipwrecked, is said to have decided him in his determination. The two vessels having reached Juan Fernandez (Feb. 1704) for the purpose of taking in wood and water, a violent quarrel ensued between Captain Stradling and his crew. Forty-two out of the sixty men went on shore, determined never to go on board again, so that the Cinque Ports rode almost deserted at anchor. For two days the men wandered about the island, undecided what to do. Howell is inclined to believe, though the fact is not stated by Funnell, the historian of the expedition, that Selkirk was amongst the disaffected, and that it was during this misunderstanding, having ample leisure to survey the island, he had resolved upon making it his subsequent retreat. At length, through the mediation of Captain Dampier, the refractory crew were reconciled to their captain, and returned to their duty. While the vessels were lying here a sail appeared in sight, when chase was immediately given, and at length coming up with her she proved to be a French ship of about four hundred tons burden, with thirty guns, and well provided and manned. A desperate action ensued, the brunt of which was borne by the *St. George*, the Cinque Ports, after firing a few shots, having fallen astern and been becalmed. The fight was maintained yardarm and yardarm for seven hours, when at length the fire of the Frenchman began to slacken, there not being men left sufficient to work the guns, and she was on the point of yielding when a breeze sprang up, and she made sail, the *St. George* not being in a condition to follow her. Thus the gallant prize was lost just at the moment fortune seemed about to place her in their power. The Cinque Ports having bore up, the two captains, in opposition to the remonstrances of the crews, determined to return to Juan Fernandez, and allow the Frenchman to escape. On their return, however, they found the bay occupied by two French South Sea vessels of thirty-six guns each, too strong a force for them to compete with; so they bore away direct for the coast of Peru.

But it is not our purpose to follow Dampier in his unfortunate expedition. After sundry adventures, a few captures, and no small mismanagement, a serious misunderstanding occurred between the two captains, and on

the 19th of May, the vessels parted, never to meet again. Strange to say, although an exchange of some of the men took place between the two ships, Selkirk remained with the Cinque Ports, thinking probably, as Howell presumes, that no money was to be got under Dampier's command. While cruising along the shores of Mexico, without any success, a violent quarrel ensued between Captain Stradling and Selkirk, and he resolved to leave, whatever might be the consequence. At length the want of provisions and the crazy state of the ship compelled Stradling to sail for Juan Fernandez. Here the vessel remained from the beginning to the end of September, the breach between the Captain and Selkirk daily becoming worse. At length, while the vessel was getting under weigh, Selkirk was landed, with his chest, and all his effects. It must have been an impressive scene to witness the leave-taking of his comrades, while the surly commander sat in the boat urging their return. Selkirk described his feelings as almost insupportable when he heard the plash of the oars as the boat rowed away, leaving him to solitude and himself on an uninhabited island. His heart literally sank within him.

The Island of Juan Fernandez, of which Alexander Selkirk was for the time the only inhabitant, is situated in the Pacific Ocean, about a hundred and ten leagues west of Chili. It is peculiarly rich in natural beauty—rocks, hills, and valleys—and abounding with delightful springs and streams of water, with umbrageous woods, and wild flowers innumerable. The shores abounded with fish, and numerous goats—a breed of which had been imported at some unknown period before—browsed upon its herbage. Such was the island-home of Selkirk, and, in the beautiful words of Cowper, he might have exclaimed, as he looked around—

“I am monarch of all I survey,
My right there is none to dispute;”

but his heart still beat violently in response to the farewell salute of his friends; the plash of the receding oars still filled his ear, and his eye strained toward the little speck on the horizon long after it had disappeared. The most intense feeling of desolation took hold of him—

“Oh solitude! where are the charms
That sages have seen in thy face?
Better dwell in the midst of alarms,
Than reign in this horrible place!”

He felt, in short, an entire prostration of his faculties. It was not till the darkness of night overshadowed all things that he closed his weary eyes, and even then not to sleep, so dreadful did he feel the indescribable loneliness of his situation. He tasted no food until prompted by extreme hunger, and then he fed upon such shellfish as the beach supplied, for he felt as if spellbound to the shore. It was now the beginning of October (1704), the "springtime of the year" in those southern latitudes in which Juan Fernandez is situated. The island was glowing in all the freshness of its vernal beauty, but nature spread her charms in vain before the deserted in his present mood. He felt as "out of humanity's reach," and was miserable. Nor was this to be wondered at. The life of a seaman is perhaps the worst of all training for a recluse; for, although they may be said to be shut out from the world for years in long voyages, still they are always associated in little communities, and enjoy each other's society with greater relish because of their peculiar situation. To be at once transferred from a floating world of some sixty men, bound to each other by a common danger and a common interest, to an uninhabited island, where he never could "hear the sweet music of speech," was a trial of fortitude which no one can properly conceive. Neither was the temper of Selkirk of that phlegmatic character to bear calmly the ills which beset him. Often did he contemplate putting an end to his sufferings by a violent death. "It was in this trying situation," says Howell, "when his mind, deprived of all outward occupation, was turned back upon itself, that the whole advantages of that inestimable blessing, a religious education in his youth, was felt in its consoling influence when every other hope and comfort had fled. When misery had subdued the pride of his hard and stubborn heart, it was then he turned to that Divine Being of whom he had thought so little at an earlier period. Then the uninhabited wilderness of Juan Fernandez was turned into a smiling garden, and the darkness of that despair that had nearly overwhelmed him began to clear away. By slow degrees he became reconciled to his fate, and as winter approached, he saw the necessity of procuring some kind of shelter from the weather; for, even in that genial clime, frost is common during the night, and snow is sometimes found upon the ground in the morning." One of the greatest difficulties experienced by the recluse was the living upon fresh food. He had no salt, and the

loathing induced by the want of it was almost intolerable. It is astonishing, however, how accommodating the human constitution is. The palate became reconciled at last. The first great enterprise engaged in by Selkirk was the building of a hut. This roused his energies, and necessarily took him away from the beach, where he used to maintain a hopeless outlook for some vessel to relieve him from his melancholy situation. He found this occupation so agreeable that he built two huts. They were constructed of "the wood of the pimento-tree, and thatched with a species of grass, that grows to the height of seven or eight feet upon the plains and smaller hills, and produces straw resembling that of oats." The one was much larger than the other, and situated near a spacious wood. This he made his sleeping-room, spreading the bed-clothes he had brought on shore with him upon a frame of his own construction; and as these wore out, or were used for other purposes, he supplied their place with goats' skins. His pimento bedroom he used also as his chapel; for here he kept up that simple but beautiful form of family-worship which he had been accustomed to in his father's house. Soon after he left his bed, and before he commenced the duties of the day, he sang a psalm or part of one; then he read a portion of Scripture, and finished with devout prayer. In the evening, before he retired to rest, the same duties were performed. His devotions he repeated aloud, to retain the use of speech, and for the satisfaction man feels in hearing the human voice, even when it is only his own. The greater part of his time was spent in devotion. He had been heard afterward to say, with tears in his eyes, that he was a better Christian in his solitude than ever he was before, and feared he would ever be again. To distinguish the Sabbath, he kept an exact account of the days of every week and month, although the method he adopted to do so is not mentioned.

"Religion! what treasure untold
Resides in that heavenly word!
More precious than silver and gold,
Or all that this earth can afford."

The smaller hut, which stood at some distance from the other, was used as a kitchen, in which he dressed his victuals. The furniture, as may be conceived, was very scanty, the pot or kettle he had brought from the ship to boil his meat in being the most valuable article. The pimento wood, which burns very bright and clear, served him both for

fuel and candle. Fire he obtained, after the Indian fashion, by rubbing two pieces of pimento wood together, until they ignited.

As time wore on, Selkirk not only became reconciled to his lot, but began to take a pleasure in his island kingdom. He ornamented the little dormitory with fragrant branches, cut from the spacious wood near to which it was situated, so that it formed a delicious bower, round which the soft breezes of the south played in balmy luxuriance, as he soundly slept after the fatigues of the day. He had food in abundance. The goats supplied him with milk and flesh, and he enjoyed great varieties of fish. The crawfish which he caught, weighing eight or nine pounds, he boiled or broiled, seasoning it with pimento (Jamaica pepper). The cabbage-palm, of which there was plenty on the island, served him for bread. He had also a species of parsnip of good flavor, Sicilian radishes, and water-cresses, which latter he found in the neighboring brooks. His mode of catching the goats was solely by speed of foot, the powder which he had brought from the ship having been soon expended; but he was careful to have always a number of tame ones browsing around his huts, by way of supply in case of accident or sickness. From the temperate life he led, coupled with moderate exercise and a salubrious climate, he enjoyed the best health, and became remarkably strong. His mind was also buoyant and cheerful in proportion to his bodily vigor. At first he could only overtake kids in the chase, but ultimately he was capable of overrunning the fleetest goat in a few minutes. He became, of course, intimately familiar with every corner of the island—all the by-paths and accessible parts of the mountains. He could bound from crag to crag, and slip down the precipices with the utmost confidence. Hunting became his chief amusement, allowing the goats to escape when he did not require them for food.

The only drawback to his happiness—and this annoyance he did not long endure—arose from the multitude of rats which infested the island, having been brought thither at some period or other by vessels. They used to gnaw his feet and other parts of his body as he slept. He at length caught some of the cats that ran wild on the island, and succeeding, after much labor, in taming them, they put the rats to flight. He used to amuse himself in teaching his feline companions to dance, in which accomplishment he also contrived to instruct the young kids,

dancing himself the while to the music of his own voice. Having no writing materials, and unwilling that all remembrance of his fate should be forgotten, he occasionally amused himself by cutting out his name, the day of the year, and other particulars, on the trees; but these had all disappeared when Lord Anson visited Juan Fernandez in 1741.

Only two or three memorable events occurred during Selkirk's residence on the island. The first was his finding a few iron hoops on the beach one day in his rambles, which had been left by some vessel as unworthy of being taken away. To the lonely islander they were more precious than gold. Of these he made knives when his own were worn out. One of them, used as a chopper, about two feet in length, was, according to Isaac James, long kept as a curiosity at the Golden Head coffee-house, near Buckingham gate. It had been changed from its original simple form, having, when last seen, a buck-horn handle, with some verses upon it. At different times our hero saw vessels from the island, but two only ever came to anchor. On both occasions he concealed himself, being afraid that they were Spaniards. It was at that time a maxim of Spanish policy never to allow an Englishman to return to Europe who had gained any knowledge of the South Seas. On the last occasion, being anxious to learn whether the ship was Spanish or French, he approached too near, and was perceived. A pursuit was the consequence; but although the sailors fired several shots after him, he easily made his escape, and kept concealed until the vessel left the island. The third and most serious occurrence, was an accident which nearly deprived him of life. In pursuing a goat, he came upon the brink of a precipice of which he was not aware, it being covered with the foliage of trees. Extending his arms to catch the animal as it suddenly stopped, the branches gave way, and both fell from a great height to the ground. He lay upon the dead body of the goat for twenty-four hours, insensible, and when at last able to crawl, he reached his hut with great difficulty. He was for ten days confined to bed by his bruises—no one, of course, being at hand to give him a drink of water. With this exception, he enjoyed uninterrupted good health.

The few clothes Selkirk had with him soon wore out. When his shoes were done he never attempted to supply their place; but as his other habiliments decayed, he con-

verted the skins of the goats into garments, sewing them with slender thongs of leather, which he cut for the purpose, and using a sharp nail for a needle. In this way he made for himself a cap, jacket, and short breeches. The hair being retained upon the skin, gave him a very uncouth appearance; but in this dress he was enabled to run through the woods with as little injury as the animal he pursued. He had a plentiful supply of linen in his chest—thanks, no doubt, to his good old mother—and with the threads of his woolen stockings, which he untwisted for the purpose, and his nail for a needle, he contrived to keep himself in good linens. The hair of his head and beard never having been touched since he left the ship, became of great length, so that his appearance must have been wild in the extreme, though, as Howell remarks, quite neighbor-like beside his cats and goats.

At length the day of relief was at hand. In 1708, another privateering expedition was promoted by Dampier in England. Two ships were fitted up—the “Duke” and “Duchess”—to cruise against the French and Spaniards. Dampier, however, held no command, being appointed only “pilot for the South Seas.” On the 31st of January, 1709, as Selkirk was as usual surveying the watery waste which circumscribed his small dominion, mentally exclaiming, no doubt—

“Ye winds, that have made me your sport,
Convey to this desolate shore
Some cordial, endearing report
Of a land I shall visit no more,”

he descried two vessels in the distance. Slowly they rose in his view, and as they gradually neared the island, he discovered, to his infinite delight, that they were English. The tumult of joyous feelings with which the sight inspired him, may, to use a common but very expressive phrase, be more easily conceived than described. “It was late in the afternoon,” says Howell, “when they first came in sight; and lest they should sail again without knowing that there was a person on the island, he prepared a quantity of wood to burn as soon as it was dark. He kept his eye fixed upon them until night fell, and then kindled his fire, and kept it up till morning dawned. His hopes and fears having banished all desire for sleep, he employed himself in killing several goats, and in preparing an entertainment for his expected guests, knowing how acceptable it would be to them after their long run, with

nothing but salt provisions for them to live upon. When day at length opened, he still saw them, but at a distance from the shore. His fire had caused great consternation on board, for they knew the island to be uninhabited, and supposed the light to have proceeded from some French ships at anchor. In this persuasion they prepared for action, as they must either fight or want water and other refreshments, and stood to their quarters all night, ready to engage; but, not perceiving any vessel, they next day, about noon, sent a boat on shore, with Captain Dover, Mr. Fry, and six men, all well armed, to ascertain the cause of the fire, and to see that all was safe. Selkirk saw the boat leave the Duke, and pull for the beach. He ran down joyfully to meet his countrymen, and to hear once more the human voice. He took in his hand a piece of linen tied upon a small pole as a flag, which he waved as they drew near, to attract their attention. At length he heard them call to him, inquiring for a good place to land, which he pointed out, and, flying as swift as a deer toward it, arrived first, where he stood ready to receive them as they stepped on shore. He embraced them by turns; but his joy was too great for utterance, while their astonishment at his uncouth appearance struck them dumb. At length they began to converse, and he invited them to his hut; but its access was so very difficult and intricate, that only Mr. Fry accompanied him over the rocks which led to it. When Selkirk had entertained him in the best manner he could, they returned to the boat, our hero bearing a quantity of his roasted goat’s flesh for the refreshment of the crew. During their repast he gave them an account of his adventures and stay upon the island, at which they were much surprised. Captain Dover and Mr. Fry invited him to come on board; but he declined their invitation, until they satisfied him that Dampier had no command in this expedition; after which, he gave a reluctant consent.”

His aversion to Dampier could not be of a personal nature, but proceeded, no doubt, from his experience of him as a commander. When he came on board the “Duke,” Dampier gave Selkirk an excellent character, telling Captain Rogers that he was one of the best men on board the Cinque Ports. Upon this recommendation he was immediately engaged as mate of the “Duke.” “In the afternoon the ships were cleared, the sails bent and taken on shore to be mended, and to make tents for the sick men. Sel-

kirk's strength and vigor were of great service to them: he caught two goats in the afternoon. They sent along with him their swiftest runners and a bull-dog; but these he soon left far behind and tired out. He himself, to the astonishment of the whole crew, brought the two goats upon his back to the tents. The two captains remained at the island until the 12th of the month, busy refitting their ships, and getting on board what stores they could obtain. During these ten days, Selkirk was their huntsman, and procured them fresh meat. At length, all being ready, they set sail."

Thus did Alexander Selkirk, after the long residence of four years and four months, without having intercourse with a human being, bid adieu to the island of Juan Fernandez. And no doubt he did so with a strange mixture of feeling, for the island, in the soothing communion he had held with the great Spirit of the Universe, had become endeared to him. We cannot follow him throughout the privateering expedition, which was on the whole a very successful one. He proved himself an expert and active seaman, though taciturn, and little inclined to mix in the amusements of his comrades. In several instances, where he was intrusted with the command of small parties on shore, and where the property and person of the inhabitants were at his mercy, he showed, in his mild and considerate behavior, especially in his protection of females, that the religious feelings with which he was impressed in his solitude were not evanescent. The "Duke" and "Duchess" reached London on the 14th of October, 1711, with "a capture of one hundred and seventy thousand pounds value." Of this large sum Alexander Selkirk of course obtained a share. Now comparatively a rich man, and anxious to see his relations after so long an absence, he sought the village of Largo, where he found all his friends in good health. The excitement of their first meeting over, however, he gradually sunk into his usual solitary habit. He resided in the house of his elder brother, his father not having sufficient accommodation for him. Here the record of his life is almost as romantic and interesting as it had been in Juan Fernandez. "It was his custom," says Howell, who acquired the information from the descendants of the family, "to go out in the morning, carrying with him provisions for the day; then would he wander and meditate alone through the secluded and solitary valley of the Keil's Den. The romantic beauties of the place, and, above all, the stillness that reign-

ed there, reminded him of his beloved island, which he never thought of but with regret for having left it. When evening forced him to return to the haunts of men, he appeared to do so with reluctance; for he immediately retired to his room up stairs, where his chest at present stands (1829), and in the exact place, it is probable, where it then stood. Here was he accustomed to amuse himself with two cats that belonged to his brother, which he taught, in imitation of a part of his occupations on his solitary island, to dance and perform many little feats. They were extremely fond of him, and used to watch his return. He often said to his friends, no doubt thinking of himself in his youth, "that were children as docile and obedient, parents would all be happy in them." But poor Selkirk himself was now far from being happy, for his relations often found him in tears. Attached to his father's house was a piece of ground, occupied as a garden, which rose in a considerable acclivity backward. Here, on the top of the eminence, soon after his arrival at Largo, he constructed a sort of cave, commanding an extensive and delightful view of the Forth and its shores. In fits of musing meditation, he was wont to sit here in bad weather and even at other times, and to bewail his ever having left his island. This recluse and unnatural propensity, as it appeared to them, was cause of great grief to his parents, who often remonstrated with him, and endeavored to raise his spirits. But their efforts were made in vain; nay, he sometimes broke out before them in a passion of grief, and exclaimed, "Oh, my beloved island, I wish I had never left thee! I never was before the man I was on thee—I have not been such since I left thee—and, I fear, never can be again!" Having plenty of money, he purchased a boat for himself, and often, when the weather would permit, made little excursions, but always alone; and day after day he spent in fishing, either in the beautiful bay of Largo or at Kingscraig Point, where he would loiter till evening among its romantic cliffs, catching lobsters, his favorite amusement, as they reminded him of the crawfish of Juan Fernandez. The rock to which he moored his boat is still shown. It is at a small distance from Lower Largo, to the east of the Temple houses.

Thus was the time passed by Alexander Selkirk during his short stay at Largo. He appears to have been an enthusiast, and to have formed notions of domestic life which never could be realized. He was evidently

far from being happy. The religious bias by which his mind had become affected in the island of Juan Fernandez, and the nearness, as it were, with which he had drawn to the Creator, while apart from society, tended to increase the irksomeness of that restraint which intercourse with his fellow-creatures imposed. "At length," continues Howell, "chance threw an object in his way that awakened in his mind a new train of thoughts and feelings, and roused him from his lethargy. In his wanderings up the burnside of Keil's Den to the ruins of Balcruvie Castle and its romantic neighborhood, he met a young girl seated alone, tending a single cow, the property of her parents. Her lonely occupation and innocent looks made a deep impression upon him. He watched her for hours unseen, as she amused herself with the wild flowers she gathered, or chanted her rural lays. At each meeting the impression became stronger, and he felt more interested in the young recluse. At length he addressed himself to her, and they joined in conversation. He had no aversion to commune with her for hours together, and began to imagine that he could live and be happy with a companion such as she. His fishing expeditions were now neglected; even his cave became not so sweet a retreat. His mind led him to Keil's Den and the amiable Sophia. He never mentioned this adventure and attachment to his friends; for he felt ashamed, after his discourses to them, and the profession he had made of dislike to human society, to acknowledge that he was upon the point of marrying, and thereby plunging into the midst of worldly cares. But he was determined to marry Sophia, though as firmly resolved not to remain at home to be the subject of their jests. This resolution formed, he soon persuaded the object of his choice to elope with him, and bid adieu to the romantic glen. Between lovers matters are soon arranged, and accordingly, without the knowledge of their parents, they both set off for London. Alexander left his chest and all his clothes behind, nor did he ever claim them again; and his friends knew nothing and heard nothing of him for many years after; still they kept his effects untouched in hopes of his return."

The subsequent career of Alexander Sel-

kirk may be briefly told. He went again to sea in 1717, and died a lieutenant on board his majesty's ship "Weymouth," in 1723. "Both his father and mother were dead," says Howell, "when, in the end of the year 1724, or beginning of 1725, twelve years after his elopement with Sophia Bruce, a gay widow, by name Frances Candis, or Candia, came to Largo to claim the property left to him by his father—the house at the Craigie Well. She produced documents to prove her right, from which it appeared that Sophia Bruce lived but a very few years after her marriage, and must have died some time between the years 1717 and 1720. Frances Candis, having proved her marriage, and the will, which was dated the 12th of December, 1720, and also the death of her husband, her claim was adjusted, and she left Largo in a few days. Neither of his two wives had any children by him, as far as can be learned."

The clothes and other effects belonging to Selkirk were long kept as relics by his friends at Largo. "In the house at the Craigie Well strangers are yet shown the room in which he slept, his sea-chest, and a cocoanut shell cup that belonged to him. This cup at one time was richly and tastefully mounted with silver, until it was unfortunately stolen by a traveling pedlar, and all trace of it lost for some months. At length, when all hope of recovering it was gone, the shell was returned from Perth, deprived of its silver. But by far the most interesting relic is his flip-can, in possession of his great-grand-nephew, John Selcraig. It hold about a Scottish pint, and is made of brown stoneware glazed. It resembles a common porter jug, as used at the present day. On it is the following inscription and poesy—as, in former times, everything belonging to a sailor that would admit of it had its rhyme:

'Alexander Selkirk, this is my one.

When you me take on board of ship,
Pray fill me full with punch or flip.

Fulham.

The same person has an Indian cane said to have belonged to Selkirk. There is a musket in the possession of Major Lumsden of Luthallan that likewise belonged to him."

From the British Quarterly Review.

CHEMISTRY OF THE STARS.

The Stars and the Earth, or Thoughts upon Space, Time, and Eternity. 1847.
London: Baillière.

MACAULAY'S "History of England" is now in its fifth edition; Layard's "Nineveh" is in its third; and within a few weeks of the issue of a second edition of Sir John Herschel's "Astronomy," it was out of print, and a new issue, equivalent to a third edition, is now on sale. So large a demand as these successive editions imply is a silent but most striking tribute to the interest of the subjects discussed in those works, and the skill of the writers who have handled them. A reviewer may, in these circumstances, safely take for granted, that instead of entering into a critical analysis of works, already judged and approved by his, and their readers, he may profitably make them the occasion of an excursus into regions of speculation, which such volumes have rendered patent to all. We propose to do so on the present occasion with Sir John Herschel's delightful work. It does not call for formal praise. The younger Herschel occupies the first rank among astronomers. He is second only to Humboldt in extensive and minute acquaintance with all the physical sciences, and is his equal in wide general culture and fine taste, and in skill as a writer. This is so well known, and so fully appreciated, that we say no more on the subject, but quote at once a passage from Sir John's preface, which will justify the use which we make of his work, and serve as a text for our present remarks.

"If proof were wanted of the inexhaustible fertility of astronomical science in points of novelty and interest, it would suffice to adduce the addition to the list of members of our system of no less than eight new planets and satellites during the preparation of these sheets for the press."—P. viii.

From the inexhaustibly fertile field here referred to, we select one point for consideration, and invite our readers, for a brief

space, to the discussion of an argument touching the Nature of the Stars and their Inhabitants.

To prevent any misconception as to the scope of what follows, we wish it to be understood at the very outset, that we shall enter into no discussion as to the probability or improbability of the heavenly bodies being inhabited. We shall take for granted that they possess inhabitants, or rather shall put the question thus: "If the stars are inhabited, is it probable that the dwellers on them resemble those on this star, or Earth, or is it more likely that they are non-terrestrial beings, unlike us, and our plant, and animal companions, and different in different stars?"

We are not anxious to compel the conclusion, that all the stars are inhabited. Many of the excellent of the earth have held that they universally are, and that, too, by rational creatures; and have thought that the denial of this did injustice to our own convictions, and to the omnipotence and bounty of God. But our standard of Utilitarianism can never be a safe one by which to estimate the works of him whose ways are not as our ways, nor does it require the view supposed.

It would not be a painful, but a pleasant thing, surely, to learn that some of the stars, such as the new planet Flora, were great gardens, like Eden of old before Adam was created; gardens of God, consecrated entirely to vegetable life, where foot of man or beast had never trod, nor wing of bird or insect fanned the breeze; where the trees never crackled before the pioneer's torch, nor rang with the woodman's axe, but every flower "was born to blush unseen, and waste its sweetness on the desert air."

Neither is it the remembrance of the Arabian Nights, nor thought of Aladdin's lamp, that makes us add that we should rejoice to

learn that there was such a thing as an otherwise uninhabited star, peopled solely by magnificent crystals. What a grand thing a world would be, containing, though it contained nothing else, columns of rock crystal like icebergs, and mountains of purple amethyst, domes of rubies, pinnacles and cliffs of emeralds and diamonds, and gates and foundations of precious stones, such as John saw in the Holy Jerusalem descending out of heaven! All who reach the Happy Land are to enter heaven as little children, and it may please God, besides other methods of instruction, to teach his little ones his greatness and his power, by showing them such a world as we have imagined.

And even if some heavenly messenger, "Gabriel, that stands in the presence of God," or one of the other angels that excel in strength, should descend amongst us, and proclaim, "There is no life of any kind in any star but the earth," should we be entitled to murmur at the news? Such is the pride and selfishness of man, that he does not hesitate to proclaim any world a desert, from which himself or his fellows are excluded. But even if it should be certain that every star but the earth is a ball of lifeless granite, or barren lava, it would be for us, if we were wise, to say of it, as the Psalmist would have said, "Whither shall I go from thy Spirit? or whither shall I flee from thy presence?" In the most deserted and solitary of worlds, as we might call it, God is present. The fullness of him that filleth all in all, fills it; the Saviour and the Holy Spirit are there. If our ears were not stopped like the deaf adder's, we should, if visitors of such an orb, hear a voice say, "Put off thy shoes from off thy feet, for the place whereon thou standest is holy ground." We leave, then, the question of the universal habitation of the heavenly bodies untouched, and intend, moreover, to refer chiefly to the nature of the stars, and not to that of their inhabitants. The character or quality of the dwellers in the heavenly bodies is, doubtless, a more generally attractive topic than that of their habitations, as most thoughtful men would consider the most forlorn and degraded savage a more truly interesting object than the grandest palace. Our only hope, however, in the meanwhile, of ascertaining anything concerning the dwellers in the stars is founded upon what we can discover concerning the stars themselves.

We shall judge this case in the same way. The stars themselves shall be appealed to for a reply to the question we are curious to

have answered. They shall appear at the bar, and learn that a charge has been preferred against them, that "they are of the earth, earthly." The question shall be put to each, "Earthly or not earthly?" and the jury shall give their verdict according to the answer returned. Our twelve honest men, then, having sworn in the presence of the great Judge to give a righteous verdict, shall be taken to the summit of some heaven-kissing hill, and left there as long as they please, to make acquaintance with the stars. Far away from anxious author and captious critics, they shall read for themselves the lesson of the universe. The heavens shall declare the glory of God: the firmament show his handiwork. Day unto day shall utter speech in their hearing: night unto night show knowledge before them. They shall watch the guiding of Arcturus and his sons: and behold the bands of Orion: they shall feel the sweet influences of the Pleiades, and listen to the morning stars singing together. "The Sirian star, that maketh the summer deadly," shall shine forth before them on the forehead of the sky, and they shall hearken to the solemn tread of the host of heaven, as, drawn up in their constellations, they nightly repeat their sentinel march from horizon to horizon.

And when the unsatisfied senses are still filled with desire, all needful help shall be furnished to gratify their longing. The Herschel forty-feet telescope shall be granted our jury to gaze through, and the courteous Lord Rosse will not refuse the giant reflector. Pulkowa, and Altona, and the Cape shall lend the best instruments of their observatories, and the ingenious Lassell shall record for them what he witnesses with his space-piercing tube. The wise and filial Herschel shall stand by to explain; and the eloquent Arago and sweet-tongued Humboldt make the wayfaring man, though a stranger, at home in the universe. As witnesses, however, witnesses only, shall these high priests of nature be called, and speak to facts, but offer no opinions.

Our twelve shall first cast a glance at our own solar system, and observe that no one of its planets has the same magnitude, inclination of axis, so far as that has been observed, density, time of rotation, or arrangement of orbit; but that each, in all these particulars, differs greatly from its brethren. They shall notice that several of the planets have no moons: that our earth has one relatively very large one: Jupiter, four relatively small ones: Saturn, seven of greatly varying di-

mensions: Uranus, as is believed, six; and Neptune, two or more. They shall see the splendid girdles which Saturn, and, as some think, Neptune, wear, and be warned that two at least of the moons of Uranus move from east to west, or in a direction opposite to that of their planet, and of all the other bodies of the solar system.

The enormous differences in the length of the planetary years shall startle them; that of Mercury, for example, being equal to about three of our months; that of Neptune, to 164 of our years. The lesser, but marked diversities in the length of their days shall awaken notice, the Mercurial day being like our own, twenty-four hours long, the Saturnine only ten. The variations in the amount of heat and light received from the Sun by each of its attendants shall not be forgotten; Uranus, for example, obtaining two thousand times less than Mercury, who receives seven times more than the earth. They shall also observe the extent to which the planets are subject to changes of season; the Earth knowing its four grateful vicissitudes; Jupiter knowing none; whilst the winter in Saturn under the shadow of his rings is fifteen years long. All those unressembling particulars shall be made manifest to our observant twelve. Neither shall they be forgetful of those dissimilarities in relation to atmosphere, and perhaps to physical constitution which astronomers have detected. When so much diversity has been seen to shine through the unity of the Solar system, our twelve shall gaze forth into space to see if all be sameness there. Sameness! They shall discern stars of the first magnitude, stars of the second magnitude, of the third, of the fourth, of the seventh, down to points so small, even to the greatest telescopes, that the soberest of philosophers can devise no better name for them than star-dust; and one of them declares "that for anything experience has hitherto taught us, the number of the stars may be really infinite, in the only sense in which we can assign a meaning to the word."* They shall find that the Dog-star is a sun, whose light has an intrinsic splendor sixty-three times greater than that of our own solar orb, and that he is not counted chief of the stars. They shall search in vain through the abysses for a system similar to our own, and find none, but perceive instead, multitudes of double-stars or twin suns, revolving round each other. They shall learn that there are triple systems of suns, and that there may

be more complex ones; and try to conceive how unlike our planetary arrangements must be the economy of the worlds to which these luminaries furnish light. They shall gaze at purple and orange suns, at blue and green and yellow and red ones; and become aware of double systems where the one twin appears to be a self-luminous sun, and the other a dark sphere of corresponding magnitude, like a sun gone out, as if modern science would assign an exact meaning to Origen's reference to "stars, which ray down darkness." Herschel shall show them the sidereal clusters, many of which "convey the complete idea of a globular space filled full of stars [i. e. suns] insulated in the heavens, and constituting in itself a family or society apart from the rest, and subject only to its own internal laws." Lord Rosse shall exhibit the nebulae, resolved and unresolved. The Continental observatories shall furnish records of those strange heavenly bodies which periodically wax and wane, now shining like "candles of the Lord," now darkening with Ichabod on their foreheads. Tycho Brahe shall tell of those mysterious unabiding stars, which have flashed almost in a moment into existence in the heavens, and have died away like all precocious things prematurely, appearing as if to verify the poet's prediction, that the sun himself will prove a transient meteor in the sky. The Chinese astronomers shall proclaim the paths of ancient comets, which neither Greek nor Roman had courage or science enough to trace through the heavens; and Humboldt, after describing the wanderings of the comets of later days, shall supply the commentary that so great are the differences among these eccentric bodies, "that the description of one can only be applied with much caution to another." The American observers shall detail how thick and fast the "fiery tears" fall from the November meteors: and a thousand other witnesses stand ready to affirm "of diversity there is no end." But we may suppose our somewhat distracted twelve, at this stage of the proceedings, to decline further evidence, and bethink themselves what their verdict shall be.

"These stars!" one juryman will say, a chandler we may guess, or oil merchant, or perhaps only a lamp-lighter—"these stars! these suns! these 'street lamps,' as Carlyle has called them, 'in the city of God,' are they to be counted, my brethren, so many argand burners, each cast in the same mould, with wick clipped to the same length, and fed with the like modicum of oil, that it may

* Herschel's Astronomy, Second Edition, p. 520.

spread an equal number of rays over the same square section of heaven's pavement? Nay! are we not certain that at least they differ in size and brightness? and if thus they vary in dimensions and in splendor, as well as in color of light and in mode of arrangement, is it likeliest that in other respects they differ only in degree, and have all but one function, or that they differ in kind and in office also? Some shall be likened to fragrant wax-candles, lighting up gay drawing rooms; and others shall be murky torches following the dead to the tomb; and others Eddystone lamps, saving goodly ships from destruction; and others, rainbow-tinted vases, making the streets gay on coronation festivals: or strontia-fires, bidding armies begin battle; or Bude flames, illuminating halls of parliament; or lime-ball and electric lights on lofty mountain-tops, measuring arcs of the globe."

A second of the twelve shall arise, a blacksmith, or stoker by the look of him. "That visible sun of ours, it should seem, is the open furnace-door of a great locomotive engine, sweeping through space. Its train goes with it, of Jupiter-Saturn first class carriages, Mars-Earthly second class, and Ceres-Vesta third ones; satellite trucks being here and there interspersed through the train; and comet engines provided to go special messages. Those far distant stars, it should seem, are locomotives too, and like enough, propel planet-trains, though no one has seen even traces of the latter. But are we free to settle that each drags its Jupiter, its Earth and Vesta carriages behind it, with the same lord and squire passengers in the first, citizens well to do in the second, and stout mechanics or ragged Irishmen in the third? Are the paint and lacker, the cushions and the pad-dings, the door-handles and the wheels, and all the similar coach furniture, to be looked for in these hypothetical trains, exactly as they are found in our Sun's planet-carriages? Let us consider before we admit this, how many coupled engines we see; how many triplets and other locomotive wonders, which are likely to have attendants as strange as their engines, and pause before we settle that Space is but a railway network, traversed by up and down trains, differing only in length and speed, and carrying in the same vehicles the same kind of passengers and goods, at the one Universal penny a mile.

"It seems, indeed, but an appeal to our ignorance to say, that that Sirius-engine, for example, differs nothing from our Sun-locomotive but in size. Its fire is far brighter and hotter than ours, and perhaps as much

because it burns a different sort of fuel, as because it merely burns more of the same coke that our locomotive consumes. Neither does it seem a self-evident proposition that the Sirian machine must be made up of some sixty chemical pieces, because one of the carriages of our Sun's train consists of so many. And as for the train of the Dog-star, if there be one, it appears not unlikely that the traffic of the regions through which it runs may be very different from that of our zodiac, and that the vehicles composing the suite of Sirius may differ in many particulars from such as accompany our Sun. I, for one at least, will say that I perceive no grounds for assuming that where diversity prevails in relation to all the points that are cognizable by us, sameness should be counted to be the rule in regard to everything that is hidden from our sight."

A third jurymen, who has plainly served before the mast, will make bold to ask the question—"Those ships of heaven that go sailing past, each on its mysterious God-commissioned errand, were it wisest to consider them a fleet of herring-boats or collier brigs, some larger, some smaller, but all built of the same materials, rigged in the same style, and carrying the same cargo? Or were it wiser to compare ourselves to the watchers on lonely Ascension Isle or solitary St. Helena, now signaling a man-of-war with its 'Mariners of England;' then an African slaver with its doleful passengers and demon-crew; now a heavy-laden Indiaman, rich with the wealth of China; then a battered South Sea whaler, filled with the spoils of slaughtered monsters of the deep; light Tahitian schooners with cocoa-nuts and arrow-root; stout American ships with ice for the epicures in India; English barks with missionaries, for the heathens of all lands. Oak ships, and teak ships, and ships hammered out of iron: sailing vessels, and ocean steamers with paddles and screw propellers. Danes, Dutchmen, and Swedes, Frenchmen, Russians and Spaniards, each with its different build, its unlike dialect, its strange flag and unressembling crew. All sizes and shapes and kinds of navigable craft, with all sorts of unimaginable cargoes and motley companies of seafaring men.

"If there are all these differences among our sailing vessels, are there likely to be fewer among the ships of heaven? Do you think it probable that if by means of some hudest speaking-trumpet, we could hail each hining orb with 'Star a-hoy!' and thereafter, by means of some farthest echoing re-

verberating hearing-horn, could get back an answer, that from every one would be returned the same doleful or trivial earthly murmur—"Money market tight; Shares looking up; Pope still at Gaeta; the Prince of Wales is to be Earl of Dublin; Bem has beaten the Ban."

"My friends, think of this. In the azure sea above us, there are no shores or landing-places; it is one boundless PACIFIC OCEAN, where the frailest bark never hides behind a bulwark, or drops anchor in a storm. The fleets of heaven are all phantom ships, for ever sailing, but never nearing port. If they are all then as nearly as possible identical, why are there so many? If the nature and object of each is the same, why are they not pieced together, so as to make up one huge vessel? They might as well have been nailed and hammered into a single mighty sun, or sun-earth, lighting up, and darkening itself, while it floated through space, like a gigantic Noah's ark, laden with every living creature."

This is our Sailor-juryman's opinion; but we have an old Serjeant also among our twelve, and he claims to be heard next. "The Skipper," he begins, "the Skipper has likened the stars to men-of-war, and so will I, though in a different sense from him, but with a view to repeat his question: If the celestial bodies are all alike, why are there so many of them? The stars, I have been told, are the 'Host of Heaven,' 'the armies of the sky,' and if so, are something more than a regiment, and are likely to present other differences than merely a grenadier company of stars of the first magnitude; a light company of stars of the second; a mass of troops of the line of the third; and drummer-boys of the fourth. An army, my friends, is not a row of pipe-clayed men, with stiff stocks and buttoned gaiters, turning their eyes to the right or the left, as some martinet colonel gives the word of command. It counts not by men but by companies, not by companies but by regiments, not by regiments but by battalions, not by battalions but by nations. Its officers are dukes and archdukes, kings, and emperors. It has cavalry and infantry, artillery battalions, rifle brigades, rocket companies, engineers, sappers and miners. In that small matter of arms and clothing, how endless the difference. Plumed bonnet, helmet and shako, grenadier cap, cocked hat; plaid, cuirass, hussar-jacket, broadsword, sabre and spear, bayonet, pistol, carabine and musket: all kinds of dress and equipment, and every va-

riety of weapon, worn by all sorts and conditions of men. And if man, bent only on fighting for his hearth and home, and without caring for diversity, nay, doing his best to provide against it, by 'tailor's uniform,' 'serjeant's drill,' 'pipe clay,' 'orders of service,' and whatever else promised to smooth over differences,—has never been able to do more than iron straight and make uniform a single regiment at a time, and that for the shortest period, how is it likely to be with that Host of Heaven, as ye call them? Scarcely among earthly hosts has some latest regulation-cap become comfortable on the head of its military wearer, before he who planted it there to realize his thirst for unity, has grown weary of its sameness, and must have the felt shaped anew. This is the lesson that nature has taught him, how not two leaves can be found alike, not even two peas: and if not two alike, still less three: least of all thirty or a thousand. If, moreover, among objects of the same class or species every additional unit shows an additional difference, how much greater the probability of variety, when there is a likelihood of the individuals belonging to different tribes! Call not, then, the heavenly bodies a host, or army, or acknowledge that they must have mighty differences among them. I say not that each 'sentinel star' is unlike all others. It is enough if it be unlike many. There may be whole battalions of the same race, wielding the same weapon, and wearing the same uniform: but will this be the case with the entire army? It was not so with Pharoah's host or the Roman legions, with Attila's hordes or Britain's army, or with any host that man has seen. I ask no other evidence of diversity existing among the starry night-watchers than that there are millions of millions of them. Such numbers do not exhaust unity; no numbers can; but they exclude sameness when oneness of species cannot be shown; and before we have counted even our thousands, 'all things, I doubt not, will have become new.' Yes! the faulchion that Orion wields is forged of a different metal from the flaming sword of the comet, or the fiery weapon of Mars, and the club of Hercules is carved of another wood than the shaft of Bootes' spear."

A long-haired, ample-collared young gentleman, will here interrupt our militaire. "Of regimental tailoring and army cutlery I know nothing. But did not Byron write that immortal line,

'Ye Stars! which are the poetry of heaven?'

And what think ye did he mean by that? That our sun, with the help of his family, had once since the beginning of things composed an ode; he, after much thought, giving out the first line, his planets with difficulty furnishing a line a-piece, the moons attending to the stops, whilst the comets supplied the interjections and notes of admiration. His lordship, too, would intend us to understand, either that copies of this remarkable production were handed round the universe, or that, by a striking coincidence of genius, such as happened more than once to himself and Goethe, each sun with due help composed once in its existence the very same family piece; so that for millions of centuries the stars have all been chanting like the children of an infant school, the same unchanging, meagre version of the 'hand that made us is divine.'

"That might be his lordship's meaning: but might he not, perhaps, intend us to understand something very different, and expect to have our sympathy with another view of things? Our Earth, I think, alone engages for its part to furnish a whole epic of Paradise Lost, through 'Man's first disobedience, and the fruit of that forbidden tree,' and each sphere it is likely has, like Thalaba, its wild and wondrous tale to tell. The poetry of heaven, according to my Lord Byron, or any other of the poet guild, is no solitary sonnet, or single song, but an Olympic contest of Iliads and Odysseys, epics and lyrics, tragedies and comedies, histories in twenty-four books, isolated verses, single hymns, detached odes, and separate songs, where the same poem is never recited twice by one author, nor similar compositions made public by different poets; but in endless diversity, a countless succession of abounding rhymes flows on, of 'grave and gay, and lively and severe,' recounting the history and the destinies of the universe, and glorifying him who sits enthroned as its King."

"Ay! and the Music of the Spheres," will a sweet-tongued jurymen say, "is that some unaccompanied melody; some 'Gloria Patri' of three notes; or 'God save the King, upon a single string,' played endlessly upon the millions of similar barrel organs that make up the universe? or is the latter some grandest cathedral organ provided not merely with '*vox humana*,' or Earthly stops, but with unnumbered Phœbus flutes, Martial trumpets, Aries horns, Serpent clarions, and pedals touched by the feet of him who walketh on the wings of the wind? Under the vault of heaven it stands a complete or-

chestra, now with muted voice, as the fingers of God move over one starry bank of keys, lisping under breath some simple melody, then, as they change to another, sounding out a trumpet obligato, or 'when the Highest gives his voice,' rolling forth with open diapason a 'Jupiter symphony,' or guiding the Hallelujah chorus of the morning stars singing together. The starry choir, I ween, is no African row of monotonous performers singing in unison, and able to sing only one song, but a Russian horn-band, where each individual furnishes his indispensable single, and unlike note, toward the universal harmony, and the troop can execute all kinds of music: or a German festival-chorus with its thousand voices, and its unlike parts undulating together into one vast symphony, and flowing on as a mighty river of sound. 'There is no speech or language where their voice is not heard. Their line is gone out through all the earth, and their words to the end of the world.'"

The Chancellor, or Foreman, however, of our twelve, desiring impartiality, and also, as befits his office, loving unity, shall here interpose: "My friends, let not this discerning of diversity prevail with us too far. From the evidence laid before us it should seem, that this solar system of ours is a goodly branch, on the summit of whose stem blooms a brilliant sun-flower, whilst round its stalk, at due distances, are arranged the components of its foliage, seventeen broad planet-leaves, and eighteen or nineteen moon-leaflets. Besides these, there are myriads of sharp-pointed, swift-piercing, straggling comet-thorns, which have occasioned much annoyance to those who have handled them. With these I shall not meddle; but those far-distant, non-planetary stars! were it not good to count them sunflowers also, of which on some branches indeed there are two on one stalk, and on others three; larger it may be in certain cases, and fairer than ours, purer in their tints, and varied occasionally in the hue of their petals, but sunflowers all of them, and embosomed in more or fewer leaves and leaflets like those on our own stem? It were no mean and paltry idea of a universe, or meagre scheme of its unity, to compare its clustered stars to unfading flowers blossoming on the branches of one great tree. I should liken it to such a monarch of the wood as Nebuchadnezzar beheld in his night-dream, or better to such as Ezekiel saw in waking vision. 'A cedar in Lebanon with fair branches, and with a shadowing shroud, and of an high stature; and his top

was among the thick boughs. * * * All the fowls of Heaven made their nests in his boughs, and under his branches did all the beasts of the field bring forth their young, and under his shadow dwelt all great nations. * * * The cedars in the garden of God could not hide him : the fir-trees were not like his boughs, and the chestnut-trees were not like his branches ; nor any tree in the garden of God was like unto him in his beauty."

"Yes!" one will reply, "that truly were a goodly scheme, and a grand unity, but were it not a better thought, productive of a grander unity, and as likely to be the true one, that that starry universe is no one flowered cedar unvaried in its beauty, but such a tree of life as the Daniel and Ezekiel of the New Testament, the beloved apostle, saw, which bare 'twelve manner of fruit,' and 'whose leaves were for the healing of the nations?'" "And were it not," a third will say, "grandest still, and most likely, that that midnight sky shows us no Lebanon with its single cedar, however stately, nor any one tree, however different its flowers, but a whole 'Garden of God,' with its oaks, and its elms, and its fir-trees; its myrtles and its roses: ay, and its lilies of the valley, its daisies and violets too? Yes! stars are like stars, as flowers are like flowers, but they do not resemble each other as roses do roses, or lilies lilies; but as the rose does the lily, or the dark violet the star-eyed daisy."

Our Chancellor, caught like Absalom in the branches of his own metaphor, shall say no more on the matter in dispute, but content himself with pressing for a conclusion. And thereupon the twelve, various in their unity, shall stand up with uncovered heads in the stillness of night, and lift their unanimous voices to heaven. "By thee only, Judge of all the earth, and all the universe, can this cause be decided, and to the judgment of thy supreme court do we refer it for final issue. But, in the meanwhile, we are free to give our verdict according to the evidence laid before us, and it runs thus:—

"*There are celestial bodies, and bodies terrestrial: but the glory of the celestial is one, and the glory of the terrestrial is another. There is one glory of the sun, and another glory of the moon, and another glory of the stars: star differeth from star in glory.*" To which verdict, we, for our part, understanding the words in their widest sense, will append our heartiest amen.

The "fullness of him that filleth all in all," is of its essence inexhaustible, as we perhaps

best realize when all metaphor is set aside, and we reflect on the one quality that belongs to God's attributes; namely, that they are Infinite. It is part of his kindness to us, that he never lets us lose sight of this great prerogative of his nature, but, alike by suns and by atoms, teaches us that his power and his wisdom have no bounds.

It cannot be that he reveals himself otherwise in the oceans of space. Were we privileged to set sail among the shining archipelagoes and starry islands that fill these seas, we should search like marveling but adoring children for wonder upon wonder, and feel a cold chill of utter disappointment if the widest diversity did not everywhere prevail. The sense of Unity is an over-ruling power which never lays aside the sceptre, and will not be disobeyed. We should not fear that it would fade away, nay, we know that it would stand forth mightiest when its kingdom seemed to have sunk under overwhelming diversity. Unity is in nature often nearest us exactly when variety seems to have put it furthest away. We are like the sailors of Magellan who first rounded the globe. Every day they sailed further as *they* reckoned from the place of their departure, and ploughed what seemed to *them* a *straight* line of increasing length, which had all to be retraced before their first harbor could be gained: but, behold, when they had sailed longest, and seemed farthest from home, they had the least to sail over, and were nearest to port. Exactly when hope of return was faintest were they called on to exclaim, like the Ancient Mariner—

"Oh dream of joy! is this indeed
The lighthouse top I see?
Is this the hill? is this the kirk?
Is this my own countree?"

A voyage through space would in like manner turn out to be a circumnavigation. We should set sail from Unity, and traverse the great circle of a universe's variety till we came round to Unity again. The words on our lips as we dropt anchor would be, "There are differences of administrations, but the same Lord, and there are diversities of operations, but it is the same God which worketh all in all."

Our readers may be disposed to think, that in all that has been said we have evasively begged the question. A phantom-jury of men, professedly unlettered, but in reality bearing the same relation to the ma-

jority of the different classes they represent, that the pedlar of Wordsworth's *Excursion* does to ordinary pedlars, have disposed of the problem under discussion, apparently unanimously enough. But if their verdict were submitted to the revision of a tribunal of men of science, it may be thought doubtful whether it would be ratified. Let us transfer, then, the question of the terrestrial or non-terrestrial character of the heavenly bodies, from the "outer court of the gentiles," in which we have hitherto heard it argued, to the "inner court of the priests," even of the high priests of Nature, who serve at her altar, the philosophers properly so called. Our space will not permit us to put on record the judgments of all of them, but we may find room to chronicle the opinions of three of the priestly dignitaries, the Astronomer, the Chemist, and the Physiologist, or Biologist.

A quotation from Sir John Herschel will show the judgment of astronomy on the question we are discussing, so far as the planets are concerned.

"Three features principally strike us as necessarily productive of extraordinary diversity in the provisions by which, if they be, like our earth, inhabited, animal life must be supported. These are, *first*, the difference in their respective supplies of light and heat from the sun; *secondly*, the differences in the intensities of the gravitating forces which must subsist at their surfaces, or the different ratios which on their several globes the *inertia* of bodies must bear to their *weights*; and, *thirdly*, the difference in the nature of the materials of which, from what we know of their mean density, we have every reason to believe they consist."—*Outlines of Astronomy*, p. 310.

The two first points of diversity noted, refer to differences in the *intensity* of certain influences, which, however, we shall presently find are, of themselves, sufficient to make terrestrial life as we see it, impossible upon at least the majority of the planets. The third is a most explicit reference to a difference in the kind of materials of which the several planets consist, which their difference in density betrays. "The density of Saturn," for example, "hardly exceeds one-eighth of the mean density of the earth, so that it must consist of materials not much heavier than cork."*

We shall refer to this question more particularly presently, when discussing the testimony of Chemistry as to the components of the Spheres.

Direct telescopic observation, moreover, has also supplied the astronomer with some information concerning the physical constitution of the heavenly bodies, the chief points of which we condense here, mainly from Herschel's minute descriptions of the characteristic features of each of the members of the solar system.

So far as the sun is concerned, it may suffice our present purpose to say, that nothing certain is known regarding its constitution. It is supposed to have a kind of triple atmosphere, one portion of which is luminous; the second consists of highly reflective clouds, which float below the first, and throw off its light and heat. The third is a mass of gaseous matter, believed to include the luminous and cloudy portions, and to envelop the solid sphere of the sun. In what condition the last is, either as to temperature or to illumination, is quite uncertain; nor is anything known in relation to its composition. Observations, however, on the transit of Venus over the sun's disc, have enabled astronomers to infer, that the sun has not an atmosphere of the same nature as the earth's; and this may be said to be the only matter tolerably certain concerning solar chemistry. Mercury is too near the sun, Uranus and Neptune too distant from it; Vesta, Ceres, Juno, Pallas, and the other minor planets, too small to permit observations as to the condition of their surfaces. Venus is thought to have an atmosphere, and some have conceived they saw hills on its disc, but the existence of these is doubtful. Mars most resembles the earth of all the planets. The outlines of what are considered continents are very distinct, and what seem to be seas are equally visible. The polar regions, too, present appearances strongly favoring the idea, that snow or ice is collected at them, thawing in the Martial summer, and becoming more abundant in its winter. This is by far the most interesting fact, as in truth it is the only positive one, so far as we know, which the telescope has supplied in relation to planetary chemistry. To have good reasons for suspecting, that so characteristic and important an earthly ingredient as water occurs in Mars, is assuredly a matter of great interest. The more abundant element of that fluid (oxygen) is also the most important constituent of air, and may perhaps exist free around the planet. A globe which had water, and an oxygen atmosphere, might certainly put in some chemical claim to be a sister of the Earth's. But such speculation is premature.

* Op. Cit. p. 311.

The presence of water does not justify the inference that free oxygen is also existent; nor does it warrant the conclusion, that more than fifty other elements must be there also. It may further be noticed, that the atmosphere of Mars is less distinct and abundant, and much less opaque and cloudy, than we should have expected, in the case of a planet thought to possess a great body of water. Astronomers, however, appear to be by no means agreed, either as to the nature or to the extent of the Martial atmosphere. Some deny that there is one at all.

The strange fiery-red light of this star, also, implies a peculiar condition of its whole uncovered surface, very unlike what our Earth's exterior exhibits, and forbids any conclusion as to the general identity of their superficial condition, or component ingredients. It still more forbids rash inferences as to terrestrial plants and animals existing on a body of unknown composition.

Nothing is known concerning the surface of Jupiter, which his cloudy atmosphere conceals from inspection; but observations on the eclipses of his moons have shown that that atmosphere does not sensibly refract light. It therefore differs from that of the earth; but we have at present no means of ascertaining what its constituents are. The disc of Saturn is also hidden from us by a gaseous or vaporous covering, the nature of which is unknown. His rings are perhaps naked, but they are rarely objects of full telescopic observation, and the state of their surfaces has not been minutely described.

The earth's satellite is the only moon which has been carefully examined; and we can say more concerning its superficial condition than that of any other of the heavenly bodies. It is the least terrestrial, to appearance, of them all. The moon has no atmosphere, no air, no clouds, no rain, nor dew, nor lakes, nor rivers, nor seas! It has great plains and valleys, but, to appearance, barren as the Zahara, for the lunar seasons produce no change on them; nor have traces of vegetable or animal life been detected on any part of its unfruitful surface. It has gigantic mountains, nearly every one an active or extinct volcano, with craters of an enormous depth; but their summits and edges, relieved from the wearing and disintegrating action of air and water, and unclothed with verdure, are in all cases rugged and sharp, unlike the worn, or covered, and everywhere rounded outlines of our hills. To this astronomical description of the moon we add the remark, that there is something altogether non-ter-

restrial in the existence of myriads of gigantic volcanic craters, without an atmosphere floating round the sphere containing them, or water existing at its surface; for all the active earthly volcanoes pour out volumes of steam and other vapors and gases, which would soon re-clothe our globe with an atmosphere, if it were deprived of its present one.

It does not appear, then, that the telescope favors the idea that a telluric or terrestrial character is common to the members of the solar system. On the other hand, at the sun, the moon, and Jupiter, it brings into view, phenomena which, so far as we can observe them, are so marked and peculiar, as to imply a state of their surfaces quite unlike that of our planet. To the consideration of this we shall return more fully, when referring to the judgment of Biology on the Stars as Theatres of Life. Meanwhile, we proceed to inquire what decision Chemistry gives, on the problem before us. It is to this part of the discussion that we are most anxious to direct the reader's attention, not because it is intrinsically more important than the points already gone over, but because of its comparative novelty, and the erroneous interpretation which has been put upon it.

It might seem, at first sight, as if chemistry could have nothing to say on the matter: yet for ages she has hankered after an alliance with astronomy, and has chronicled the fact in her nomenclature. The alchemist was an astro-chemist, and twin-brother to the astrologer. Gold was Sol; Silver, Luna; Iron, Mars; Lead, Saturn, &c.; and we still speak of lunar caustic, and martial and saturnine preparations, when referring to certain of the medicinal compounds of silver, iron, and lead. One of the most important of the metals every day reminds us, by its name, Mercury, of the affinity which was once thought to connect it with its namesake, the planet. The astrologist, however, long ago became an astronomer, and the alchemist a chemist; and for a lengthened period they had no dealings together. It has been otherwise latterly. The extension of both sciences has led to their meeting again, and this in a somewhat singular way.

His own little Juan Fernandez island of an earth, was apparently the only spot in the universe of which the chemist could declare, "I am monarch of all I survey." Toward the far distant stars, however, he cast wistful eyes. They were almost all suns, the astronomer told him, which for ages had evolved light and heat, and spread it through space. Can chemistry, then, which for cen-

tries has been explaining—always more and more successfully—the evolution of heat and light on this earth, give no information concerning their production at the sun? It seems that perhaps it may. When a ray of sunlight is passed through a prism, certain “fixed lines” or dark spaces are seen in the resulting spectrum, unlike those which the spectra of terrestrial flames exhibit. Sirius and Castor exhibit peculiar spectra also. “Now a very recent discovery of Sir D. Brewster,” as Professor Graham observes, “has given to these observations an entirely chemical character. He has found that the white light of ordinary flames requires merely to be sent through a certain gaseous medium, (nitrous acid vapor,) to acquire more than a thousand dark lines in its spectrum. He is hence led to infer, that it is the presence of certain gases in the atmosphere of the sun which occasions the observed deficiencies in the solar spectrum. We may thus have it yet in our power to study the nature of the combustion which lights up the suns of other systems.”*

Such is one example of the way in which chemistry has sought to extend her dominion into space. Another is furnished by the conclusions which Wollaston drew as to the quality of the atmospheres of the Sun and Jupiter, referred to already in this paper, and detailed more fully in the notice of that philosopher’s works previously published in this journal.† It has recently, however, been found possible to apply chemical analysis directly to certain of the heavenly bodies, so that, without extravagance, we can now declare that there is a Chemistry of the Stars as well as of the Earth.

The oft-quoted Oriental proverb, which teaches, that since the “mountain will not come to Mahomet, Mahomet must go to the mountain,” has in this case, for once, been reversed; for when the chemist could find no way of traveling to the spheres, behold! certain bright particular stars have come to him and submitted to analysis; we refer to the *aërolites*, *meteorites*, or *meteoric stones*, which, according to the most generally adopted of many theories, at one time were thought to have been projected from volcanoes in the moon. They are now almost universally acknowledged to have been true stars before they reached our earth. For a statement of the reasons which have led astronomers to this conclusion, we must refer our readers to

Humboldt’s *Cosmos*, where the whole subject is discussed at great length. It may suffice to say, that many considerations justify the conclusion, that multitudes of asteroids, starlets, or, as Sir John Herschel calls them, “*meteor-planets*,” revolve in definite orbits round the sun, and some also as invisible, or momentarily visible, minute moons round the earth. The orbits of some of the former are believed to resemble that of the earth, but to be in a different plane, so that in the course of their revolutions round the sun, these tiny planets come, at certain periods, within the sphere of the earth’s attraction, and are precipitated as meteoric stones upon its surface, as weary and forlorn birds of passage, far out at sea, are entangled in the rigging of vessels, and fall helpless on deck.

This modern theory of meteorites reads like a bald rendering of the poetical myth of the angels, whom earthly loves induced to forfeit forever their places in the heavens, but it has invested the strange fallen stars, to which it refers, with a new interest. The largest of them is but a microscopic grain of the star-dust scattered over the sky, but it is none the less of celestial origin, and may be submitted to analysis.

The meteorites have accordingly been put upon the rack by the chemist, and all their secrets have been tortured out of them, but they have revealed fewer marvels than at one time was expected. No new chemical element or primary ingredient has been found in any of them. In other words, they contain no ultimate chemical component which the earth does not contain. This remarkable fact has seemed to many to justify the belief, that other worlds have been constructed out of the same materials as our own. It is thus, for example, turned to account by the author of the “*Vestiges of the Natural History of Creation*.” After stating that the elements, or simplest chemical constituents of the globe, are those sixty or more substances which have hitherto resisted all attempts to reduce them to simpler forms of matter, he proceeds thus:*

“Analogy would lead us to conclude that the modifications of the primordial matter forming our so-called elements, are as universal, or as liable to take place everywhere as are the laws of grav-

* *Elements of Chemistry*, Second Edition, p. 106.

† Vol. iii. p. 85.

* The exact number of chemical elements, or simple bodies, is uncertain, as recent researches still incomplete have revealed the existence of several, whose chemical relations have not yet been fully ascertained. We use the integer 60 as sufficiently near the true number for our present purpose.

itation and centrifugal force. We must therefore presume that the gases, the metals, the earths, and other simple substances, (besides whatever more of which we have no acquaintance,) exist, or are liable to come into existence under proper conditions, as well in the Astral system, which is thirty-five thousand times more distant than Sirius, as within the bounds of our own solar system, or our own globe."—*Vestiges*, Fifth Edition, p. 30.

We leave unnoticed, till we proceed with our discussion, the baseless assumption contained in the passage just quoted, that the earth, considered as an aggregate of chemical substances, is a type of the chemistry of the universe. It is thus justified by a reference to the meteoric stones:—

"What is exceedingly remarkable, and particularly worthy of notice as strengthening the argument that all the members of the solar system, and perhaps of other systems, have a similar constitution, no new elements are found in these bodies [meteorites]; *they contain the ordinary materials of the earth*, but associated in a manner altogether new, and unlike anything known in terrestrial mineralogy."—*Vestiges*, Fifth Edition, p. 42.

The clause of this sentence which we have marked by italics, contrives, by an unwarrantable concealment, to convey a very false impression of the true nature of meteoric stones. They are said to "contain the ordinary materials of the earth," which no doubt they do; but it should have been added, that they contain only *some* of them; so far as we know, but the smaller part.

We have not on record a great number of analyses of meteoric stones, for they are comparatively rare; it would be premature, therefore, to decide that we know all their constituents. But so far as our knowledge extends, it does not appear that a third of our earthly elements has been found in these bodies. Humboldt, in his *Cosmos*, enumerates only thirteen of the sixty elements as occurring in them. Prof. Shepard counts nineteen as certain, and adds two more as doubtful. It is to be observed, on the other hand, that not only are the majority of the terrestrial elements, including many of the most important among them, totally wanting from meteoric stones, but those which are present are not mingled (as the quotation indeed acknowledges) in earthly proportions.

Our globe consists, speaking generally, of two opposite classes of ingredients—namely, metals and non-metallic bodies, some of which, as oxygen in the one division and the

precious metals in the other, occur free, but the greater number in combination with some body or bodies of the unlike class. There are many more *kinds* of metals than of non-metallic substances, but the latter, taken as a whole, occur in much larger *quantities* than the former. One non-metallic body alone, oxygen, is computed to form a third of the weight of the crust of the earth. In meteoric stones, on the other hand, whilst non-metallic elements are the less numerous constituents, (only a half of those occurring in the earth being found in them,) they also occur in much smaller quantities than the metals. Of some of them, indeed, traces only are found.

Many of the best marked aërolites are masses of nearly pure metal, chiefly iron, with a small proportion of nickel. Others contain cobalt, manganese, chromium, copper and arsenic diffused through them in minute quantities, associated with a small per centage of oxygen, sulphur, chlorine, &c. The stony meteorites consist chiefly of silica and metallic oxides.

Whilst thus, meteoric stones contain only a portion of the elements of the earth, that portion is made up, (in the greater number of meteorites,) so far as the relative quantities of its components are concerned, almost entirely of metals. A meteoric stone represents, therefore, only a third of the whole constituents of the earth so far as number is concerned, and except to a small extent, but one class of them so far as nature. A globe so constituted could never, by any process of development, (unless its so-called elements suffered transmutation,) become possessed of water, or an atmosphere, or give birth to terrestrial plants or animals.

It may make the matter clearer to those not minutely conversant with chemistry, who may suspect us of hypercriticism, if we illustrate the force of our argument thus: The conclusion in which we are asked to acquiesce is this strange one, that an aggregate of nineteen, or at the utmost twenty-one ingredients is the same thing as an aggregate of sixty.* According to this view, a double flageolet of two tubes should be the same thing as a pan-pipe of seven, or an organ with scores of them; and a village fife and

* Twenty-one is the aggregate number of chemical elements found in meteoric stones, but no one meteoric contains so many. Some of the best known consist almost entirely of one ingredient. We state the case, therefore, in the way most disadvantageous for our argument when we speak of the meteoric elements as twenty-one in number.

drum should be identical with a full military band, because the latter includes a fife and drum. It should thus make no difference whether one inherited an iceberg or a green island, Terra del Fuego or the gold district in California; for the iceberg possesses *to the extent of its possession*, (namely, so much ice or solid water) what the fertile island contains, and Terra del Fuego is rich to the extent of its riches in the wealth of California.

Perhaps, however, we are dealing in a misleading exaggeration. The ingredients missing from the meteor-planets may be properly enough marked by the minute analyst as absent, and yet be of no great consequence in reference to the suitability of the latter to become theatres of life. The difference between the meteorite and the earth is perhaps only such as existed between Paganini's fiddle with one string, and Thalberg's piano with some hundred, from both of which instruments the same melody might sound. If such be the case, the author of the "Vestiges" could have no objection to allow us to place him within the receiver of an air-pump, and deprive him of only one of the sixty ingredients—namely, oxygen—which is absent from many of the meteoric stones. Only twenty-one elements, it should seem, are needed, and we have been kinder to him than he is on paper to himself, for we have allowed him fifty-nine. Why does he pant so? and gasp for breath? Oxygen it should seem is no needless superfluity or choice luxury. The lung was not made to breathe without the breath of life being provided for it; and a meteoric stone, as our author before being let out of our receiver shall confess, would be as fatal as a vacuum to every terrestrial creature. Let it be further noticed that the missing elements of the meteoric stone are exactly those which are most abundant in plants and animals, and the worth of our author's reasoning will appear; but to this we shall return.

The chemical argument, stripped of all exaggeration, stands thus. Several specimens of the bodies of space have been subjected to analysis—namely, the earth, so far as its crust or accessible portion is concerned, and meteoric stones. The latter have not a common chemical composition, but are divisible into sections, each of which represents a separate example of planetary chemistry.* When the meteorites and the earth

are compared, they are found to differ immensely, so far as the mode of arrangement, the relative quantities, the number and nature of their constituents are concerned. Here, then, are several unlike chemical specimens of the universe. To which among them are the other heavenly bodies to be compared? Analysis has succeeded in making one step beyond this earth, and has immediately brought to light a non-terrestrial chemistry. If it could stride on to sun, moon, and stars, what should it find? Different chemistries? or that of the earth or the meteoric stones endlessly repeated? Different chemistries, we think, and this for many reasons.

If the heavenly bodies were constructed of the terrestrial or the meteoric chemical elements, arranged in the way these are in the earth, or in the meteorites, the densities of the heavenly bodies should, within no very wide limits, be identical with the specific gravity of the earth, or of some one of the meteoric stones; but the opposite is the fact, for the Sun, Jupiter, Saturn, Uranus, and Neptune have all a density much below that of our planet, or of any of the meteor-planets, as the following table, where the specific gravity of the earth is made unity, will show:*

Earth, 1; Sun, 0.25; Jupiter, 0.24; Uranus, 0.24; Saturn, 0.14; Neptune, 0.14.

Apart altogether from this difference in density, it is manifest, that confining ourselves to purely chemical considerations, we could assign no satisfactory reason for preferring the earth to the meteoric stones, or the latter to the earth, as types of the chemical composition of one or all of the heavenly bodies; neither can we venture to affirm that we have exhausted in our globe and the meteor-planets the only existing examples of variation in composition which the

* Prof. Shepard divides meteorites into two Classes—*Metallic*, and *Stony*; and each class into three Orders, under which *thirteen* sections are included.

* In the table in the text we have not given the sp. gr. of any of the meteorites, because their densities vary so much, that the mean of their specific gravities does not afford a datum of any value in reference to our argument. For the satisfaction, however, of the reader, we may mention that according to Humboldt, "the specific weight of aërolites varies from 1.9 to 4.3. Their general density may be set down as 3, water being 1." Humboldt's maximum is certainly too low, for various of the American meteorites, examined by Prof. Shepard, have a density above 7; whilst, therefore, the earth is 5.6 times heavier than water, the densest of the meteorites are 7 times heavier, and the lightest within a tenth of being twice as heavy as water.

universe presents, so that every star must be classed with the one or the other, inasmuch as they comprise all the diversities which occur in sidereal chemistry. On the other hand, it is not difficult to show that chemistry amply provides for every star having a different composition, and renders it exceedingly probable that different stars will in this respect differ greatly.

In the first place, the chemical elements do not present that character of completeness and unity, considered as a great family, which we should expect in the raw material of a whole universe. When we subdivide them into groups, they arrange themselves unequally. Thus in several cases we find divisions of elements, such as—chlorine, bromine, iodine; barium, strontium, calcium; niobium, pelopium, tantalum, in which the characteristic properties of each of the components of the group pass into those of its other members by the most delicate shadings. In other examples, again, although analogous properties are not wanting in other bodies, the particular substance (*ex. gr.*, nitrogen, or mercury) stands apart, isolated as it were, and exhibiting but remote affinities to its nearest neighbors. In all science, however, and strikingly in chemistry, isolation is the exception, and association the rule. In these cases of apparent isolation, it is possible that elements which would make up a group, and connect the solitary in friendly alliance with the families about it, may exist in other worlds, as animals supplying gaps in the zoological circles are found extinct in the strata of other eras than our own. Such hypothetically deficient elements no doubt may yet be found in our own globe, but for the present, we must adopt the rule, "*de non apparentibus, et de non existentibus, eadem ratio.*" Or we may find all the so-called elements to be modifications of some simpler or simplest forms or form of matter, and be able to convert that into unknown substances of the same grade as our present elements, and so satisfy the supposed need of harmony. Even if we should, however, achieve this result, it would only alter the mode of stating the problem, which would then run thus—What forms of the primary matter are likely to occur in different globes?

Secondly, it may be remarked that some of our terrestrial elements, such as the metals of the earths proper (except aluminum) and also selenium, tellurium, molybden, vanadium, tungsten, as well as others, are not known to be of service in our globe. It would be very rash to permit our ignorance

to be the measure of a question like this. These bodies may have been, or may yet be, even if they are not at present, (which, however, is only an assumption,) of the utmost value in effecting necessary changes on the earth. Man, too, as his knowledge extends, may discover economical applications of the elements in question, of the greatest importance. Withal, however, we may suppose that some, at least, of these substances may not have been specially destined to be of use on our globe, but may bear the same relation to it that rudimentary organs do to the bodies of the animals possessing them, so that they are of little or no service to the structure in which they occur, but are typical of much more highly developed instruments, or arrangements, in other organisms or spheres. These seemingly useless, and sparingly distributed, bodies in our earth, may be the prevailing or most important constituents of other globes, and may perform functions there of which we have no conception. Other elements, such as arsenic, yield compounds so deadly to vegetable and animal life, and so apparently unserviceable in the mineral kingdom, that one is almost driven to believe that it was not primarily for us, but for some other beings in a different world, such bodies were provided. At least, we suppose there are few who will consider the slight service which arsenical preparations have rendered in medicine, or their efficacy in poisoning rats and flies, and the fact of their furnishing certain pigments, as an equivalent for the multitude of human beings whom they have consigned to untimely graves, and the many crimes to which they have furnished temptations.

Thirdly, nature has been very niggard to us of certain of the elements, for example, of one peculiar and very valuable class, the noble or precious metals, gold, platina, palladium, rhodium, &c. We do not refer to the scarcity of these as limiting our luxury, or count them precious in the sense of being costly. Gold and platina, to mention no others, have the desirable properties of never wasting, rusting, or corroding, and platina will not melt in the heat of a blast-furnace. Were these or the allied metals more abundant, our eating, drinking, and cooking vessels would be made of one or other of them. Our steam-boilers, railroads, furnace-bars, lamp-posts and the like, would be constructed of platina, rhodium, or palladium, and our lighter and more elegant instruments and utensils of gold, which would be too cheap to tempt thieves to steal. One may suppose

that other worlds may have been more richly favored than we are with supplies of these or other goodly bodies, which find so limited scope for exhibiting their manifold virtues here. Can platina, *ex. gr.*, considered as a veritable, simple substance, be supposed to have been created solely to supply the terrestrial chemist with tests and crucibles? The chemist will probably think that a very satisfactory final cause for its creation, and we will not cry nay to it. But what if there be worlds where this metal is so abundant that they are sick of the sight of it, and would be glad to see a piece of rusty old iron, where the thieves steal the costly magnesia, and the royal crowns are made of the precious metal, lead? To speak more soberly, is it very unlikely that so marked and striking a metal as platina, as well as its congeners, may occur more abundantly on other worlds framed on a different ideal from ours? We have no wish, however, to try our hand at improving God's fair and beautiful world.

To sum up the matter, we observe, without insisting on more, that we have no ground for assuming that we see on this earth all the kinds of elementary, or quasi-elementary matter which can exist. Still less are we justified in affirming that we have manifested on this globe the only modes of arrangement or of distribution, so far as relative quantity is concerned, of which our elements are susceptible. The very opposite is likely to be the case. The fact of there being *many* chemical elements awakens the suspicion that they were intended to be arranged in *many* ways. Had our globe been a ball of iron or of lead, we should have had nothing to suspect in space but iron or lead. But when there are more than sixty earthly constituents, arranged, too, in a quite arbitrary way, we cannot resist the expectation that they will be found apportioned among the celestial spheres, not in that one way, but in various ways; here a few, there many together; in one globe, bodies of one class; in another, of another; in no one, perhaps, exactly the arrangement that prevails in any of the rest. Our globe may be called a mosaic of some sixty pieces, but it has not pleased the Great Artist to make equal use of each of the sixty. Not more than a half of them can be detected except by minute inspection, and the predominating tints are only some six or seven. Other stars may be mosaics constructed out of more or fewer of the same pieces, but they are, in all probability, put together according to different patterns. Let it not be forgotten that the omission of a

single element would make a great difference. A globe in all other respects identical with ours would be utterly unfitted for being the theatre of life such as we see, if it wanted, as we have already noticed, but the one body oxygen, or hydrogen, or nitrogen, or carbon. The addition in considerable quantity of a single new potent element would equally derange the economy of a world. The arrangement in a different way, without addition or abstraction, of existing elements would be as efficacious a cause of disturbance. If, for example, the nitrogen and oxygen of our atmosphere were suddenly to combine (and every thunderstorm occasions combination), we might be maddened by laughing gas, or drowned in an ocean of nitric acid. The shades of variation in such a case would become shadows of most portentous depth and darkness.

If any one, indeed, will consider how many tunes can be made with the seven primary notes of music; how many numbers can be combined out of the ten numerals; how many words out of the twenty-four letters of the alphabet, he may conceive how enormously great is the number of worlds, each quite distinct, which could be constructed out of the sixty elements. In the first place, there is a means of variety in the *number* of the simple bodies. One globe, like our earth, contains them all. Others, like the meteoric stones, may contain only some of them. Secondly, the *relative quantities* of the elements may vary. On one globe, the abounding element may be oxygen, as in our earth; in another, platina. A third cause of variety will be the *condition* of the elements. With us, hundreds of tons of chlorine are locked up in mountains of rock salt. In other worlds, that gas may be free, and form an atmosphere like our air.

Add these modes of varying composition together, and employ them all, and where will the variety stop? Millions of millions of worlds would not exhaust it. To what extent this susceptibility of variation has been taken advantage of by the Architect of the Heavens we cannot tell; but to suppose that it has been turned to no account seems a conception meagre beyond endurance. If we but knew the use to which the spheres are put, we might possibly hazard a conjecture concerning their composition, but of that we are altogether ignorant. Yet to suppose that the Infinite One has exhausted the counsels of his wisdom in arranging the chemistry of our globe, and could only therefore repeat that endlessly through space, or

to affirm that such a monotonous arrangement of the great world or universe is in keeping with the endless diversity visible in the little one which we inhabit, is a view of things that may not be entertained for a moment.

We close this long chemical discussion with one remark. Speculation set aside, the testimony of chemistry in reference to the heavenly bodies is neither more nor less than this, that every one of them which has been submitted to analysis, differs in composition from all the rest. Absolute chemical identity of any two or more has never been observed, whilst the extremes of difference between those least like each other, if denoted on a scale, would be 60 and 1; the maximum of this scale being the earth with its sixty ingredients, the minimum, those well known meteorites, which are little else than lumps of malleable iron. The importance of this fact has been overlooked, because, beginning with the earth, we have found the meteor-planets composed of fewer ingredients than it, and these all terrestrial.

Assuredly it would have been a more remarkable circumstance, if the meteoric elements had all been novel, and possessed of striking and unfamiliar properties; and something like disappointment has been felt because they are not. But we must not on this account disregard the fact, that the meteorites are non-telluric in their chemical characters. They are so, as much by the terrestrial elements they want, as they would have been by the novel elements they might have possessed. Had a single non-terrestrial element been found in a meteoric stone, our philosophers would have been lost in wonder. Yet within the last ten years, six or seven new elements, namely, Didymium, Lanthanium, Niobium, Pelopium, Tantalum, Erbium, Terbium, have been discovered in our own planet, and none but professed chemists have paid any attention to the fact, nor has the discovery perceptibly altered any of our scientific beliefs. Had but one of those obscure metals been found in a meteorite, and in it alone, speculations would have abounded on its nature and uses. Nevertheless, the addition of six or seven such metals to our globe, by the tacit confession of all science, is of infinitely less importance to the earth, than the loss of one such element as oxygen, hydrogen, nitrogen, or carbon would be. To find, therefore, one of the latter absent, is truly a more interesting fact in relation to terrestrial chemistry, than it would be to find *all* of the recently discovered metals, or as many more similar elements, present. The most richly

endowed of the meteoric stones, moreover, contain not a majority, but less than a fourth of the terrestrial elements, and of many of the most characteristically terrestrial elements, only traces. As soon as this fact is distinctly perceived, men will cease to complain that there are no new meteoric elements, and none will refuse to acknowledge that so far as analysis has proceeded, terrestrial and sidereal chemistry are quite different.

It remains now only to consider what the judgment of physiology or biology is likely to be concerning the manifestation of life in the heavenly bodies. It has to a considerable extent been anticipated or implied, in what has been stated already.

Life, as it exists on this globe, is compatible only with certain conditions, which may not be overstepped without causing its annihilation. The whole of these need not be enumerated, as the failure of one is as fatal to existence, as the absence of all. The three to which Sir John Herschel has referred, namely, difference in the quantity of heat and light reaching each globe; variation in the intensity of gravity at its surface; and in the quality of its component materials, may suffice to illustrate this. Light and heat are essential to the development and maintenance of earthly life, but their excess is as destructive to it as their deficiency. What, then, shall we say of the sun, whose heat we know by direct trial to be of such intensity that after great degradation or reduction, it can still melt the most infusible minerals, and dissipate every metal in vapor; and whose light is so intolerably brilliant, "that the most vivid flames disappear, and the most intensely ignited solids appear only as black spots on the disc of the sun, when held between it and the eye."* If the temperature of the solid sphere or body of the sun be such as those phenomena imply, it must be the abode, if inhabited at all, of beings such as Sir Thomas Browne refers to, who can "lie immortal in the arms of fire." It is within possibility, however, that the body of the sun is black as midnight and cold as death, so that as the eye sees all things but itself, he illuminates every sphere but his own, and is light to other stars, but darkness to his own gaze. Or the light and heat of his blazing envelope, may be so tempered by the reflective clouds of his atmosphere, which throw them off into space, that an endless summer, a nightless summer-day,

* Herschel's Outlines of Astronomy, p. 236.

reigns on his globe. Such an unbroken summer, however, though pleasant to dream of, would be no boon to terrestrial creatures, to whom night is as essential as day, and darkness and rest as light and action. The probabilities are all in favor of the temperature of the sun's solid sphere, being very high, nor will any reasonable hypothesis justify the belief that the economy of his system in relation to the distribution of light and heat can resemble ours.

We can assert this still more distinctly of the planets. We should be blinded with the glare and burnt up, if transported to Mercury, where the sun acts as if seven times hotter than on this earth; and we should shiver in the dark, and be frozen to death if removed to Uranus, where the sun is three hundred times colder than he is felt to be by us. To pass from Uranus to Mercury, would be to undergo in the latter exposure to a temperature some two thousand times higher than we had experienced in the former, whilst on this earth the range of existence lies within some two hundred degrees of the Fahrenheit thermometer.

As for our satellite, Sir John Herschel says of it, "The climate of the moon must be very extraordinary; the alternation being that of unmitigated and burning sunshine fiercer than an equatorial noon, continued for a whole fortnight, and the keenest severity of frost far exceeding that of our polar winters for an equal time." It would seem, then, that though all else were equal, the variations in amount of light and heat, would alone necessitate the manifestation of a non-terrestrial life, upon the sun, and the spheres which accompany the earth in its revolutions around it. All else, however, is not equal. The intensity of gravity at the surfaces of the different heavenly bodies differs enormously. At the sun it is nearly twenty-eight times greater than at the earth. "The efficacy of muscular power to overcome weight, is therefore proportionably nearly twenty-eight times less on the sun than on the earth. An ordinary man, for example, would not only be unable to sustain his own weight on the sun, but would literally be crushed to atoms under the load."* "Again, the intensity of gravity, or its efficacy in counteracting muscular power, and repressing animal activity on Jupiter, is nearly two and a half times that on the earth, on Mars is not more than one-half, on the moon one-sixth, and on the smaller planets probably not more than one-twen-

tieth; giving a scale of which the extremes are in the proportion of sixty to one."†

From this account it appears, that we should be literally mercurial in Mercury, and saturnine in Saturn, but anything but jovial in Jupiter, where we should be two and a half times heavier and duller than here. On the smaller planets we should feel like swimmers in the Dead Sea, or as if in a bath of quicksilver, where to sink is impossible. "A man placed on one of them would spring with ease sixty feet high, and sustain no greater shock in his descent than he does on the earth from leaping a yard. On such planets giants might exist, and those enormous animals, which on earth require the buoyant power of water to counteract their weight, might there be denizens of the land."† If the fixed stars be suns, of what ponderous adamant must the beings be fashioned, which exist on their surfaces! Were it possible for us, clothed in some frigorific asbestos garment, to endure unscathed the flames of Sirius, it would only be to be crushed to powder against his enormous globe. Here, then, is a second point of diversity, of itself sufficient to forbid the development of the earth-life we see here, on any other of the heavenly bodies.

And we do not require to enlarge upon the third point of diversity—variation in the chemical composition of the spheres. The absence of an atmosphere from the moon, and the peculiar characters of that of Jupiter and of the sun, have already been referred to as forbidding the appearance of terrestrial life under their skies. The impossibility of its manifestation on meteor-planets such as have reached our earth has also been sufficiently dwelt upon.

In the face of the immense diversity which has thus been shown to prevail through space, it should seem impossible to hold the belief, that the stars are all but so many Earths. The author of the "Vestiges," however, in his blind zeal for the nebular hypothesis of a common physical origin of all worlds, and solicitous to save God the trouble of taking care of his own universe, thinks otherwise.

"We see," says he, speaking as if the nebular hypothesis were an established fact, "that matter has originally been diffused in one mass, of which the spheres are portions. Consequently, *inorganic matter must be presumed to be everywhere the same*, although probably with differences in the proportions

* Herschel's Outlines, p. 311.

* Ibid.

† Ibid. p. 323.

of ingredients in different globes, and also some difference of conditions. Out of a certain number of the elements of inorganic matter are composed the elements of organic bodies, both vegetable and animal, *such must be the rule* in Jupiter and in Sirius as it is here. We are, therefore, *all but certain* that herbaceous and ligneous fibre, that flesh and blood, are the constituents of the organic beings of all those spheres which are as yet seats of life."*

He proceeds a little further on to say, "Where there is light, there will be eyes; and these, in other spheres, will be the same in all respects as the eyes of tellurian animals, with only such differences as may be necessary to accord with minor peculiarities of condition and of situation. It is," he adds, "but a small stretch of the argument to suppose that one conspicuous organ of a large portion of our animal kingdom being thus universal, a parity in all the other organs,—species for species, class for class, kingdom for kingdom,—is highly likely, and that thus the inhabitants of all the other globes of space have not only a general but a particular resemblance to those of our own."† How baseless this reasoning is, with its "small stretch" at the close, we need not stop to demonstrate anew, but a few words may be added to enforce what has been stated already, in reference to the concluding argument concerning the relation of eyes to light.

It is a hasty and unwarrantable conclusion, that every illuminated globe must contain living eyes. On our own earth, there are many animals without organs of vision; so that we cannot conclude that eyes are a necessary reaction of light and life upon each other. Worlds may be supplied with light for other reasons than to endow their inhabitants with the faculty of sight. Our sun is a centre of many influences. We know at least three which may be separated from each other—light, heat, and what has been called actinic or chemical force; but probably electricity and magnetism also radiate from his orb. Terrestrial plants and animals are powerfully affected by most, probably by all of those; but the inhabitants of other spheres may not have organs enabling them to take advantage of more than some, perhaps only of one of the forces in question. On the other hand, the sun may be the source of agencies of which we know nothing, which are about us and yet do not af-

fect us, because we have no channels or senses by which they can find access to us. The dwellers in other planets may have organs of which we have no conception, enabling them to enjoy these, either as substitutes for the influences which affect us, or in addition to them.

Our sun, it is true, sends light to his several planets and their moons, but that they all make the same use of it is in no degree probable. They may, some of them at least, be "old in rayless blindness," yet not like Schiller's Proserpine, "aching for the gold-bright light in vain." They may have "knowledge at one entrance quite shut out;" but so likely enough have we, and at more entrances, perhaps, than one. The sun may impartially distribute the same gifts, though in unequal quantities, to his family; but it depends on each member of the circle what improvement is made of them. Mercury, who receives Benjamin's portion, may well be expected to show a different result from the newly-discovered, scantily-endowed Neptune, who has so long and so mysteriously tempted Uranus from his course. We would liken the different planets and satellites of our system to so many pieces of stained glass in a cathedral window; on every one, the same seven-tinted light falls, but the chemical composition, and molecular arrangement of each transparent sheet determines whether it turns to account the whole seven, and gleams white, or profits only by certain of them, and shows, in consequence, green or red, blue, purple, or yellow. If some tiny fly, whose dominion was limited to the inside of a single pane, should suppose that, as its kingdom was bathed in unchanging red, every other sheet of glass must be "vermeil tintured" also, because it knew that on every one the same light fell, it would greatly err, as we are wise enough to know. But we who are "crushed before the moth," probably err as widely, if we affirm that each of the planets is a mirror reflecting the sun in the same way. He is probably like a fountain, sending forth a river charged with many dissimilar substances, and each of the planets resembles a filter, separating from it what its construction enables it to retain, and what was intended and is fitted to be appropriated by it.

Even, however, if we should concede to our author that wherever there is light there will be eyes, surely a few more data are necessary, before a whole animal can be assumed. Can we infer that lungs or other breathing organs exist, unless we make it

* Page 171.

† Page 172.

probable that there is an atmosphere to breathe? Can we take for granted wings of birds or of insects, unless we show that there is air to fan? or, may we count on the "hearing ear" before we establish that there is a gaseous or aqueous medium to transmit the undulations of sound? If there be no water, will there be paddles of whales or of turtles, or fins of fishes? If no carbon, will there be leaf, or stem of flower, or tree? If no lime, bone or skeleton of any animal? The existence of all these organs cannot be assumed merely because there is light. But, in truth, as little can organs of vision. For if there be no water, there can be no blood; and if no blood, then not even eyes, at least earthly eyes, however constant and brilliant the light may be.

The unequivocal testimony, then, of physical science, as it seems to us, is against the doctrine that life, as it appears on the stars, must be terrestrial in its nature, though we are far from wishing to affirm that planets closely resembling the earth may not occur in space. It is enough for our argument to show that there are myriads of stars, which, for the reasons already given, are altogether non-terrestrial in their characters.

It remains, then, to inquire whether we are to come to the conclusion, that the stars are uninhabited, inasmuch as terrestrial life is the only possible one, or to believe that there exists a diversified astral life which is manifested on them. Abstaining from anything like an attempt to define positively the probable characteristics of the latter, if it exist, we may say this much on the matter. There are fewer characters of universality in terrestrial life than in terrestrial chemistry. There is a plant-life and an animal-life, which are quite separable, and may exist apart, and there are different kinds of each. To mention but one example: the egg of the butterfly has one life, and the caterpillar which springs from it has another; and the chrysalis into which the caterpillar changes has a third, and the butterfly which rises from the chrysalis has a fourth; and so there may be worlds which know only a germinal, or a caterpillar, a chrysalis, or a butterfly life.

Further, in this world we see plants and the lowest animals possessing only the sense of touch, if the former can be said to be endowed even with that. Gradually as we ascend in the animal scale, additional senses are manifested, till four more appear in the highest animals. But who shall tell us that these five are the only possible, or even the only existing channels of communication with

the outer world? We might, besides the general argument from analogy against such a conception, refer to those agencies influencing living beings, which have been recognized for centuries as implying some supersensuous relation to external nature. It would be unwise to allow the extravagances of animal magnetism to prevent us from recognizing the indications which several of its phenomena afford, of perceptions of outward things not easily referable to the operation of any of the known senses. Nevertheless, that so-called, and as yet questionable science, has, for a season at least, fallen into the hands of those with whom the gratification of wonder is a much greater object than the discovery of truth, and we fear to build much upon it. We can find, in another and quite unexceptionable quarter, a substantial foundation on which to assert the probability of life being manifested very differently in other spheres than it is in our own globe. We refer to the assurance which the New Testament gives us, that our human spirits are destined to occupy bodies altogether unlike our present ones.

From the remarkable way in which the Apostle Paul likens the "natural body" to a seed which is to be sown, and grow up a "spiritual body," one is led to believe that the immortal future tabernacle is to bear the same relation of difference, and yet of derivation to the present mortal one which a tree does to a seed. The one will be as unlike the other as the oak is unlike the acorn, though but in a sense the expansion of it.

Whether this be the doctrine or not which the Apostle teaches, it is at least certain, that he announces that a great and inconceivable alteration is to come over our bodies. Doubtless, our spirits are to be changed also, but more, as it seems, in the way of intensification of faculties, desires, passions, and affections—on the one hand, good, on the other, evil—which have been exercised or experienced, in their fainter manifestations, in the present state of existence, than by the introduction of positively new elements into our intellectual and moral being. We do not urge this point; it is enough if it be acknowledged to be a Scripture doctrine, that human spirits, reminiscent of their past history, and conscious of their identity, are, however otherwise changed, to occupy bodies totally unlike our present ones. If, however, it be supposed that the "spiritual" occupants of our future tabernacles are to differ totally from us, it only adds to the force of the argument, as it implies the greater diversity as

to the manner in which being may manifest itself. It is part, then, of the scheme of God's universe, that spirits clothed in non-earthly bodies shall dwell in it. It is idle, therefore, to say that terrestrial life is certainly the probable sidereal one, since it is not the only existing, or at least the only contemplated mode of being. In looking at the stars, as habitations of living creatures, we have at least two unlike examples of the way in which mind and matter admit of association to choose from, as patterns of what astral life may be. But the further lesson is surely taught us, that there may exist other manifestations of life than only these two. For, the spell of simplicity once broken by a single variation, we know not how many more to expect, whilst the conclusion is not to be resisted, that other variations there will be. The same Apostle who dwells on the resurrection, tells us, in reference to the happy dead, that "eye hath not seen, nor ear heard, neither have entered into the heart of man, the things which God hath prepared for them that love him." They are not only, therefore, to have bodily organs different from ours, but these are to be gratified by sights which our eyes have not witnessed, by sounds to which our ears have never listened, and by a perception of phenomena inconceiv-

able by us. There are here indicated the two great elements of variety to which we have already referred; a theatre of existence totally unlike the present one, and organs of relation to it different from those of terrestrial beings.

The argument might be greatly extended, but we cannot attempt here an exhaustive discussion of the subject. The sum of the whole discussion is this:—Astronomy declares that there are unlike theatres of existence in the heavens,—suns, moons, and planets; Chemistry demonstrates that different kinds of construction, that of the earth, and those of the meteoric stones, prevail through space; Physiology contemplates the possibility of a non-terrestrial life unfolding itself in the stars; and the Bible reveals to us, that there is an immortal heavenly, as well as a mortal earthly life.

The consideration of all this leaves no place for the thought, that the tide of life which ebbs and flows through the universe, is but the undulation of so many streamlets identical with that which bathes the shores of our globe. In our Father's house are many mansions, and the Great Shepherd watches over countless flocks, and has other sheep which are not of this fold.

LOVE.

BY W. H. D.

SURELY love is a blessed emotion,
That seeks every heart for its throne;
There to reign in the deepest devotion,
To the most sacred joys that are known:
Then love, while thy spirit is sighing
For the beautiful, holy, and true;
And believe, whether living or dying,
In its power to save and subdue.

Ever cling, with the sweetest affection,
To the kindred with which thou art blest;
And let no unkind recollections
Be ever retained in thy breast;
It causes the deepest dejection,
Sweet honey it turns into gall,
When Time, o'er the graves of affection,
Is suffered to tread with his pall.

Love thy friend, love thy foe and thy neighbor,
The suffering, poor, and distressed,
And ever be willing to labor
For the good of thy brother oppressed;
Love the slave in his deep degradation,
Love the master, and grieve o'er his fall,
But denounce with a stern indignation
The sin, that in chains would enthrall.

Love thy country and every other;
Cherish sympathies open and free;
Wherever man dwells, find a brother,
Whom God has related to thee:
In love to thy Father in Heaven,
Through love for thy Saviour, His Son,
Let thy soul's highest powers be given,
And pray that His will may be done.

From Chambers's Edinburgh Journal.

LYCANTHROPY.

WHOEVER has read the "Arabian Nights' Entertainments" will be acquainted with the words goul and vampyre. A goul was believed to be a being in the human form, who frequented graveyards and cemeteries, where it disinterred, tore to pieces, and devoured the bodies buried there. A vampyre was a dead person, who came out of his grave at night to suck the blood of the living, and whoever was so sucked became a vampyre in his turn when he died. Both these persuasions have been rejected by the modern scientific world as altogether unworthy of credence or inquiry, although, about a century ago, the exploits of vampyres created such a sensation in Hungary, that they reached the ears of Louis XV., who directed his minister at Vienna to report upon them. In a newspaper of that period there appeared a paragraph to the effect that Arnold Paul, a native of Madveiga, being crushed to death by a wagon, and buried, had since become a vampyre, and that he had himself been previously bitten by one. The authorities being informed of the terror his visits were occasioning, and several persons having died with all the symptoms of vampyrism, his grave was solemnly opened; and although he had been in it forty days, the body was like that of a living man. To cure his roving propensities a stake was driven into it, whereupon he uttered a cry; after which his head was cut off, and the body burnt. Four other bodies which had died from the consequences of his bites, and which were found in the same perfectly healthy condition, were served in a similar manner; and it was hoped that these vigorous measures would extinguish the mischief. But no such thing: the evil continued more or less, and five years afterward was so rife, that the authorities determined to make a thorough clearance of these troublesome individuals. On this occasion a vast number of graves were opened of persons of all ages and both sexes; and strange to say, the bodies of all those accused of plaguing the living by their nocturnal visits were found in the vampyre state—full of

blood, and free from every symptom of death. The documents which record these transactions bear the date of June 7, 1732, and are signed and witnessed by three surgeons and other creditable persons. The facts, in short, are indubitable, though what interpretation to put upon them remains extremely difficult. One that has been suggested is, that all these supposed vampyres were persons who had fallen into a state of catalepsy or trance, and been buried alive. However this may be, the mystery is sufficiently perplexing; and the more so, that through the whole of Eastern Europe innumerable instances of the same kind of thing have occurred, whilst each language has an especial word to designate it.

That which in the East is called "goulism" has in the West been denominated "lycanthropy," or "wolfomania;" and this phenomenon, as well as vampyrism, has been treated of by numerous ancient authors; and though latterly utterly denied and scouted, was once very generally believed.

There are various shades and degrees of lycanthropy. In some cases the lycanthrope declares that he has the power of transforming himself into a wolf, in which disguise—his tastes corresponding to his form—he delights in feeding on human flesh; and in the public examinations of these unhappy individuals there was no scarcity of witnesses to corroborate their confessions. In other instances there was no transformation, and the lycanthrope appears more closely to resemble a goul.

In the year 1603, a case of lycanthropy was brought before the parliament of Bordeaux. The person accused was a boy of fourteen, called Jean Grenier, who herded cattle. Several witnesses, chiefly young girls, came forward as his accusers, declaring that he had attacked and wounded them in the disguise of a wolf, and would have killed them but for the vigorous defence they made with sticks. Jean Grenier himself avowed the crime, confessing to having killed and eaten several children; and the father of the children confirmed all he said. Jean Grenier,

however, appears to have been little removed from an idiot.

In the fifteenth century lycanthropy prevailed extensively amongst the Vaudois, and many persons suffered death for it; but as no similar case seems to have been heard of for a long while, lycanthropy and goulism were set down amongst the superstitions of the East, and the follies and fables of the dark ages. A circumstance, however, has just now come to light in France that throws a strange and unexpected light upon this curious subject. The account we are going to give is drawn from a report of the investigation before a council of war, held on the 10th of the present month (July 1849), Colonel Manselon president. It is remarked that the court was extremely crowded, and that many ladies were present.

The facts of this mysterious affair, as they came to light in the examinations, are as follows:—For some months past the cemeteries in and around Paris have been the scenes of a frightful profanation, the authors of which had succeeded in eluding all the vigilance that was exerted to detect them. At one time the guardians or keepers of these places of burial were themselves suspected; at others, the odium was thrown on the surviving relations of the dead.

The cemetery of Père la Chaise was the first field of these horrible operations. It appears that for a considerable time the guardians had observed a mysterious figure flitting about by night amongst the tombs, on whom they never could lay their hands. As they approached, he disappeared like a phantom; and even the dogs that were let loose, and urged to seize him, stopped short, and ceased to bark, as if they were transfixed by a charm. When morning broke, the ravages of this strange visitant were but too visible—graves had been opened, coffins forced, and the remains of the dead, frightfully torn and mutilated, lay scattered upon the earth. Could the surgeons be the guilty parties? No. A member of the profession being brought to the spot, declared that no scientific knife had been there; but certain parts of the human body might be required for anatomical studies, and the gravediggers might have violated the tombs to obtain money by the sale of them. . . . The watch was doubled; but to no purpose. A young soldier was one night seized in a tomb, but he declared he had gone there to meet his sweetheart, and had fallen asleep; and as he evinced no trepidation, they let him go.

At length these profanations ceased in

Père la Chaise, but it was not long before they were renewed in another quarter. A suburban cemetery was the new theatre of operations. A little girl, aged seven years, and much loved by her parents, died. With their own hands they laid her in her coffin, attired in the frock she delighted to wear on fête days, and with her favorite playthings beside her; and accompanied by numerous relatives and friends, they saw her laid in the earth. On the following morning it was discovered that the grave had been violated, the body torn from the coffin, frightfully mutilated, and the heart extracted. There was no robbery: the sensation in the neighborhood was tremendous; and in the general terror and perplexity, suspicion fell on the broken-hearted father, whose innocence, however, was easily proved. Every means were taken to discover the criminal; but the only result of the increased surveillance was, that the scene of profanation was removed to the cemetery of Mont Parnasse, where the exhumations were carried to such an extent, that the authorities were at their wits' end. Considering, by the way, that all these cemeteries are surrounded by walls, and have iron gates, which are kept closed, it certainly seems very strange that any goul or vampyre of solid flesh and blood should have been able to pursue his vocation so long undiscovered. However, so it was; and it was not till they bethought themselves of laying a snare for this mysterious visitor that he was detected. Having remarked a spot where the wall, though nine feet high, appeared to have been frequently scaled, an old officer contrived a sort of *infernal machine*, with a wire attached to it, which he so arranged that it should explode if any one attempted to enter the cemetery at that point. This done, and a watch being set, they thought themselves now secure of their purpose. Accordingly, at midnight an explosion roused the guardians, who perceived a man already in the cemetery; but before they could seize him, he had leaped the wall with an agility that confounded them; and although they fired their pieces after him, he succeeded in making his escape. But his footsteps were marked by the blood that had flowed from his wounds, and several scraps of military attire were picked up on the spot. Nevertheless, they seem to have been still uncertain where to seek the offender, till one of the gravediggers of Mont Parnasse, whilst preparing the last resting-place of two criminals about to be executed, chanced to overhear some sappers of the 74th regiment remark-

ing that one of their sergeants had returned on the preceding night cruelly wounded, nobody knew how, and had been conveyed to the Val de Grace, which is a military hospital. A little inquiry now soon cleared up the mystery; and it was ascertained that Sergeant Bertrand was the author of all the profanations, and of many others of the same description previous to his arrival in Paris.

Supported on crutches, wrapped in a gray cloak, pale and feeble, Bertrand was now brought forward for examination; nor was there anything in the countenance or appearance of this young man indicative of the fearful monomania of which he is the victim; for the whole tenor of his confession proves that in no other light is his horrible propensity to be considered.

In the first place, he freely acknowledged himself the author of these violations of the dead both in Paris and elsewhere.

"What object did you propose to yourself in committing these acts?" inquired the president.

"I cannot tell," replied Bertrand: "it was a horrible impulse. I was driven to it against my own will: nothing could stop or deter me. I cannot describe nor understand myself what my sensations were in tearing and rending these bodies."

President. And what did you do after one of these visits to a cemetery?

Bertrand. I withdrew, trembling convulsively, feeling a great desire for repose. I fell asleep, no matter where, and slept for several hours; but during this sleep I *heard everything that passed around me!* I have sometimes exhumed from ten to fifteen bodies in a night. I dug them up with my hands, which were often torn and bleeding with the labor I underwent; but I minded nothing, so that I could get at them. The guardians fired at me one night and wounded me, but that did not prevent my returning the next. This desire seized me generally about once a fortnight.

He added, that he had had no access of this propensity since he was in the hospital, but that he would not be sure it might not return when his wounds were healed. Still he hoped not. "I think I am cured," said he. "I had never seen any one die; in the hospital I have seen several of my comrades expire by my side. I believe I am cured, for now I fear the dead."

The surgeons who attended him were then examined, and one of them read a sort of memoir he had received from Bertrand, which contained the history of his malady as far as his memory served him.

From these notes, it appears that there had been something singular and abnormal about him from the time he was seven or eight years old. It was not so much in acts, as in his love of solitude and his profound melancholy that the aberration was exhibited; and it was not till two years ago that his frightful peculiarity fully developed itself. Passing a cemetery one day, where the gravediggers were covering a body that had just been interred, he entered to observe them. A violent shower of rain interrupted their labors, which they left unfinished. "At this sight," says Bertrand, "horrible desires seized me: my head throbbed, my heart palpitated violently; I excused myself to my companions, and returned hastily into town. No sooner did I find myself alone, than I procured a spade, and returned to the cemetery. I had just succeeded in exhuming the body, when I saw a peasant watching me at the gate. Whilst he went to inform the authorities of what he had seen, I withdrew, and retiring into a neighboring wood, I laid myself down, and in spite of the torrents of rain that were falling, I remained there in a state of profound insensibility for several hours."

From this period he appears to have given free course to his inclinations; but as he generally covered the mutilated remains with earth again, it was some time before his proceedings excited observation. He had many narrow escapes of being taken or killed by the pistols of the guardians; but his agility seems to have been almost superhuman.

To the living he was gentle and kind, and was especially beloved in his regiment for his frankness and gaiety!

The medical men interrogated unanimously gave it as their opinion, that although in all other respects perfectly sane, Bertrand was not responsible for these acts. He was sentenced to a year's imprisonment, during which time measures will doubtless be taken to complete his cure.

In relating this curious case of the *Vampire*, as he is called in Paris, where the affair has excited considerable attention, especially in the medical world, we have omitted several painful and disgusting particulars; but we have said enough to prove that, beyond a doubt, there has been some good foundation for the ancient belief in goulism and lycanthropy; and that the books of Dr. Weir and others, in which the existence of this malady is contemptuously denied, have been put forth without due investigation of the subject.

From the Quarterly Review.

BRITANNIA AND CONWAY TUBULAR BRIDGES.

General Description of the Britannia and Conway Tubular Bridges on the Chester and Holyhead Railway. Published, with the permission of Robert Stephenson, Civil Engineer, by a Resident Assistant. Pp. 34. London. 1849.

WE offer to our readers a short descriptive outline of the aerial passages through which it is proposed by the Directors of the Chester and Holyhead Railway, that the public shall, without cuneiform sustentation, fly across the Menai Straits.

We shall divide our subject into the following compartments:—

1. The principle upon which the Britannia Bridge is constructed.
2. The mode of its construction.
3. The floating of its tubes.
4. The manner in which they were subsequently raised.
5. Mr. Fairbairn's complaint that Mr. Robert Stephenson has deprived him "of a considerable portion of the merit of the construction of the Conway and Britannia Bridges."

I. PRINCIPLE OF THE PROPOSED PASSAGE.—In the construction of a railway from Chester to Holyhead, the great difficulty which its projectors had to contend with was to discover by what means, if any, long trains of passengers and of goods could, at undiminished speed, be safely transported across that great tidal chasm which separates Carnarvon from the island of Anglesey. To solve this important problem the Company's engineer was directed most carefully to reconnoitre the spot; and as the picture of a man struggling with adversity has always been deemed worthy of a moment's attention, we will endeavor to sketch a rough outline of the difficulties which one after another must have attracted Mr. Robert Stephenson's attention, as on the Anglesey side of the Menai Straits he stood in mute contemplation of the picturesque but powerful adversaries he was required to encounter.

Immediately in his front, and gradually rising toward the clouds above him, were the lofty snow-capped mountains of Snow-

don, along the sides of which, or through which, the future railroad, sometimes in bright sunshine and sometimes in utter darkness, was either to meander or to burrow.

Beneath him were the deep Menai Straits, in length above 12 miles, through which, imprisoned between precipitous shores, the waters of the Irish Sea and of St. George's Channel are not only everlastingly vibrating backward and forward, but at the same time, and from the same cause, are progressively rising or falling from 20 to 25 feet with each successive tide, which, varying its period of high water every day, forms altogether an endless succession of aqueous changes.

The point of the Straits which it was desired to cross—although broader than that about a mile distant, pre-occupied by Mr. Telford's Suspension-bridge—was of course one of the narrowest that could be selected; in consequence of which the ebbing and flowing torrent rushes through it with such violence that except where there is back-water, it is often impossible for a small boat to pull against it; besides which, the gusts of wind which come over the tops, down the ravines, and round the sides of the neighboring mountains, are so sudden, and occasionally so violent, that it is as dangerous to sail as it is difficult to row; in short, the wind and the water, sometimes playfully, and sometimes angrily, seem to vie with each other—like some of Shakspeare's fairies—in exhibiting before the stranger the utmost variety of fantastic changes which it is in the power of each to assume.

But in addition to the petty annoyances which air, earth, and water could either separately or conjointly create, the main difficulty which Mr. Stephenson had to encounter was from a new but irresistible element in Nature, an "orbis veteribus incog-

nitus," termed in modern philosophy *The First Lord*, or, generically, *The Admiralty*.

The principal stipulation which the requirements of War, and the interests of Commerce, very reasonably imposed upon Science was, that the proposed passage across the Menai Straits should be constructed a good hundred feet above high-water level, to enable large vessels to sail beneath it; and as a codicil to this will it was moreover required that, in the construction of the said passage, neither scaffolding nor centering should be used—as they, it was explained, would obstruct the navigation of the Straits.

Although the latter stipulation, namely, that of constructing a large superstructure without foundation, was generally considered by engineers as amounting almost to a prohibition, Mr. Stephenson, after much writhing of mind, extricated himself from the difficulty by the design of a most magnificent bridge of two cast-iron arches, each of which commencing, or, as it is termed, springing, 50 feet above the water, was to be 450 feet broad, and 100 feet high—the necessity for centering being very ingeniously dispensed with by connecting together the half arches on each side of the centre pier, so as to cause them to counterbalance each other like two boys quietly seated on the opposite ends of a plank, supported only in the middle. This project, however, which on very competent authority has been termed "one of the most beautiful structures ever invented," the Admiralty rejected, because the stipulated height of 100 feet would only be attained under the *crown* of the arch, instead of extending across the *whole* of the watercourse. It was also contended that such vast cast-iron arches would take the wind out of vessels' sails, and, as a further objection, that they would inevitably be much affected by alternations of temperature.

Although this stern and unanticipated demand, that the passage *throughout its whole length* should be of the specified height, appeared to render success almost hopeless, it was evidently useless to oppose it. The man of science had neither the power nor the will to contend against men of war, and accordingly Mr. Stephenson felt that his best, and indeed only, course was—like poor little Oliver Twist when brought before his parish guardians—"TO BOW TO THE BOARD;" and we beg leave to bow to it too, for, gnarled as were its requirements, and flat as were its refusals, it succeeded, at a cost to the Company to which we will subsequently refer, in effecting two great objects:—first, the mainte-

nance for ever, for the purposes of War and Commerce, of an uninterrupted passage for vessels of all nations sailing through the Menai Straits; and secondly, the forcing an eminent engineer to seek until he found that which was required; in fact, just as a collision between a rough flint and a piece of highly-tempered steel elicits from the latter a spark which could not otherwise have appeared, so did the rugged stipulations of the Admiralty elicit from Science a most brilliant discovery, which possibly, and indeed probably, would never otherwise have come to light.

But to return to the Anglesey shore of the Menai Straits.

When Mr. Stephenson, after many weary hours of rumination in his London study, beheld vividly portrayed before him the physical difficulties with which he had to contend in the breadth and rapidity of the stream; when he estimated not only the ordinary violence of a gale of wind, but the paroxysms or squalls which in the chasm before him, occasionally,—like the Erle King terrifying the "poor baby,"—convulsed even the tempest in its career; and lastly, when he reflected that, in constructing a passage so high above the water, he was to be allowed neither centerings, scaffoldings, nor arches, it occurred to him, almost as intuitively as a man when his house is on fire at once avails himself of the means left him for escape, that the only way in which he could effect his object was by constructing in some way or other, at the height required, a straight passage, which, on the principle of a common beam, would be firm enough to allow railway trains to pass and repass without oscillation, danger, or even the shadow of risk; and it of course followed that an aerial road of this description should be composed of the strongest and lightest material; that its form should be that best suited for averting the wind; and lastly, that no expense should be spared to protect the public from the awful catastrophe that would result from the rupture of this "baseless fabric" during the passage over it of a train.

It need hardly be stated that, whatever might be the result of Mr. Stephenson's abstract calculations on these points, his practical decision was one that necessarily involved the most painful responsibility; which indeed, if possible, was increased by the reflection that the Directors of the Chester and Holyhead Railway placed such implicit confidence in his judgment and caution that they were prepared to adopt almost whatever ex-

pedient he might, on mature consideration, recommend.

In war, the mangled corpse of the projector of an enterprise is usually considered a sufficient atonement for his want of success; indeed, the leader of the forlorn-hope, who dies in the breach, is not only honorably recollected by his survivors, but by a glorious resurrection occasionally lives in the History of his country; but when a man of science fails in an important undertaking involving the capital of his employers and the lives of the public, in losing his reputation he loses that which *never can be revived!*

Unawed, however, by these reflections, Mr. Stephenson after mature calculations—in which his practical experience of iron-shipbuilding must have greatly assisted him—confidently announced, first to his employers and afterward to a Committee of the House of Commons, by whom he was rigidly examined, that he had devised the means of accomplishing that which was required; and further, that he was ready to execute his design.

The great difficulty had been in the conception and gestation of his project; and thus his severest mental labor was over before the work was commenced, and while the stream, as it hurried through the Menai Straits, as yet saw not on its banks a single workman.

The outline or principle of his invention was, that the required passage of passengers and goods across the Conway and Menai Straits should be effected through low, long, hollow, straight tubes—one for up-trains, the other for down ones—composed of wrought-iron “boiler-plates,” firmly riveted together. He conceived that, in order to turn aside the force of the wind, these tubes ought, like common water-pipes, to be made oval or elliptical, and that they should be constructed at their final elevation on temporary platforms, upheld by chains which—notwithstanding the evident objection, in theory as well as in practice, to an admixture of moveable and immoveable parts—might of course subsequently be allowed to give to the bridge an auxiliary support, although Mr. Stephenson’s experience enabled him to declare to the Committee of the House of Commons very positively that no such extra assistance would be required. He proposed that the extremities of the tubes should rest on stout abutments of masonry, terminating the large embankment by which from either side of the country each was to be approached; the intermediate portions of the aerial passage

reposing at the requisite elevation upon three massive and lofty towers. Of these one was to be constructed at high-water mark on each side of the Straits. The third, no less than 210 feet in height, was to be erected as nearly as possible in the middle of the stream, on a tiny rock, which, covered with 10 feet of water at high tide, although at low water it protruded above the surface, had long been considered as a grievance by boatmen and travelers incompetent to foresee the important service it was destined to perform.

The four lengths of each of the twin tubes, when supported as described, were to be as follows:—

	FEET.
From Carnarvon embankment, terminating in its abutment, to the tower at high-water mark	274
From the latter tower to Britannia tower, situated upon Britannia rock in the middle of the stream	472
From Britannia tower to that at high-water mark on the Anglesey shore	472
From the Anglesey tower to the abutment terminating the embankment which approaches it	274
Total length of each tube	1492
Total length of both tubes	2984

Notwithstanding the bare proposal of this magnificent conception was unanswerable evidence of the confidence which the projector himself entertained of its principles, yet, in justice to his profession, to his employers, to the public, as well as to himself, Mr. Stephenson deemed it proper to recommend that, during the construction of the towers and other necessary preparations, a series of searching experiments should be made by the most competent persons that could be selected, in order to ascertain the precise shape and thickness of the immense wrought-iron aerial galleries that were to be constructed, as also the exact amount of weight they would practically bear. In short, the object of the proposed experiments was to insure that neither more nor less materials should be used than were absolutely requisite, it being evident that every pound of unnecessary weight that could be abstracted would, *pro tanto*, add to the strength and security of the structure.

Although it was foreseen, and very candidly foretold, that these experiments would be exceedingly expensive, the Directors of the Company readily acceded to the requisition, and accordingly, without loss of time,

the proposed investigation was, at Mr. Stephenson's recommendation, solely confided to Mr. William Fairbairn, a shipbuilder and boiler-maker, who was justly supposed to possess more practical experience of the power and strength of iron than any other person that could have been selected. Mr. Fairbairn, however, after having conducted several very important investigations, deemed it necessary to apply to Mr. Stephenson for permission "to call in the aid and assistance of Mr. Hodgkinson," a powerful mathematician, now professor in the University of London, and whom Mr. Stephenson, in his report to the Directors, dated Feb. 9, 1846, declared to be "distinguished as the first scientific authority on the strength of iron-beams." To these two competent authorities Mr. Stephenson subsequently added one of his own confidential assistants, Mr. Edwin Clark, a practical engineer of the highest mathematical attainments, who regularly recorded and reported to Mr. Stephenson the result of every experiment—to whom the construction and lifting of the Britannia galleries were eventually solely intrusted,—and by whom an elaborate description of that work is about to be published.*

The practicability of Mr. Stephenson's hollow-beam project having thus, at his own suggestion, been subjected to a just and rigid investigation, we shall have the pleasure of briefly detailing a few of the most interesting and unexpected results; previous, however, to doing so, we will endeavor to offer to those of our readers who may not be conversant with the subject a short practical explanation of the simple principle upon which a beam, whether of wood or iron, is enabled to support the weight inflicted upon it.

If human beings can but attain what they desire, they seldom alloy the gratification they receive by reflecting—even for a moment—on the sufferings which their fellow-

creatures may have undergone in procuring for them the luxury in question. Dives sometimes extols his coals, his wine, his food, his raiment, his house, his carriages, and his horses, and yet how seldom does he either allude to or ruminate on the hardships and misery which, for his enjoyment, have been endured in coal-pits, lead-mines, sugar-plantations, cotton-fields, manufactories, smelt-houses, in horticultural and agricultural labor, by the sons and daughters of Lazarus!—and if this heartless apathy characterizes human beings with reference to each other, it may naturally enough be expected that, provided *inanimate* objects answer our purpose, we think not of them at all. For instance, if a beam without bending or cracking bears—as it usually does—the weight which the builder has imposed upon it, who cares how it suffers or where it suffers?

For want, therefore, of a few moments' reflection on this subject, most people, in looking up at a common ceiling-girder, consider that the corresponding upper and lower parts thereof must at all events, *pari passu*, suffer equally; whereas these upper and lower strata suffer from causes as diametrically opposite to each other as the climates of the pole and of the equator of the earth; that is to say, the top of the beam throughout its whole length suffers from severe compression, the bottom from severe extension, and thus, while the particles of the one are violently jammed together, the particles of the other are on the point of separation; in short, the difference between the two is precisely that which exists between the opposite punishments of vertically crushing a man to death under a heavy weight, and of horizontally tearing him to pieces by horses!

Now this theory, confused as it may appear in words, can at once be simply and most beautifully illustrated by a common small straight stick freshly cut from a living shrub.

In its natural form the bark or rind around the stick is equally smooth or quiescent throughout; whereas, if the little bough firmly held in each hand be bent downward, so as to form a bow, or, in other words, to represent a beam under heavy pressure, two opposite results will instantly appear; namely, the rind in the centre of the upper half of the stick will, like a smile puckering on an old man's face, be crumpled up; while on the opposite side, immediately beneath, it will, like the unwrinkled cheeks of Boreas, be severely distended—thus denoting or rather demonstrating what we have stated,

* "With the sanction, and under the immediate supervision of Robert Stephenson, Civil Engineer. A Description of the Britannia and Conway Tubular Bridges; including an Historical Account of the Design and Erection, and Details of the Preliminary Experiments, with the Theories deduced from them. Also, General Inquiries on Beams, and on the Application of Riveted Wrought-Iron Plates to Purposes of Construction; with Practical Rules and Deductions, illustrated by Experiments. By Edwin Clark, Assistant Engineer. With Diagrams and a folio volume of Plates and Drawings, illustrative of the Progress of the Works. London: Published for the Author, by John Weale, 59, High Holborn, 1849."

namely, that beneath the rind the wood of the upper part of the stick is severely compressed, while that underneath it is as violently stretched; indeed, if the little experiment be continued by bending the bow till it breaks, the splinters of the upper fracture will be seen to interlace or cross each other, while those beneath will be divorced by a chasm.

But it is evident on reflection that these opposite results of compression and extension must, as they approach each other, respectively diminish in degrees, until in the middle of the beam, termed by mathematicians "its neutral axis," the two antagonist forces, like the anger of the Kilkenny cats, or, rather, like still-water between tide and backstream, become neutralized, and, the lanimæ of the beam consequently offering no resistance either to the one power or to the other, they are literally useless.

As therefore it appears that the main strength of a beam consists in its power to resist compression and extension, and that the middle is comparatively useless, it follows that in order to obtain the greatest possible amount of strength, the given quantity of material to be used should be accumulated at the top and bottom where the strain is the greatest—or in plain terms, the middle of the beam, whether of wood or iron, should be bored out. All iron girders, all beams in houses, in fact all things in domestic or naval architecture that bear weight, are subject to the same law.

The reader has now before him the simple philosophical principle upon which Mr. Stephenson, when he found that he was to be allowed neither scaffolding, centering, nor arches, determined to undertake to convey at undiminished speed the Chester and Holyhead Railway's passenger and goods traffic across the Conway and Menai Straits through hollow tubes instead of attempting to do so upon solid beams; and as a striking and perhaps a startling exemplification of the truth of his theory, it may be stated that although his plate-iron galleries, suspended by the tension as well as supported by the compression of their materials, have on mature calculations been constructed to bear nearly nine times the amount of the longest railway train that could possibly pass through them, (namely, one of their own length,) yet if, instead of being hollow, they had been a *solid* iron beam of the same dimensions, they would not only have been unable to sustain the load required, but would actually have been bent by—or, metaphorically,

would have fainted under—their own weight!

Experiments.—One of the most interesting and important results of the preliminary investigations so ably conducted by Mr. Fairbairn and his friend and associate, Mr. Hodgkinson, was the astonishing difference found to exist between the power of cast and that of wrought iron to resist compression and extension. From the experience which engineers and builders had obtained in imposing weights upon cast-iron girders of all shapes and sizes, it had long been considered almost a mechanical axiom that iron possessed greater power to resist compression than extension; whereas, Mr. Fairbairn's experiments, to his surprise as well as to that of all who witnessed them, most clearly demonstrated that, after bearing a certain amount of weight, the resisting properties of cast and of wrought iron are diametrically opposite; in short, the results in figures proved to be nearly as follows:—

Cast-iron can resist per square inch—

Compression of from 35 to 49 tons.

Extension of " 3 7

Wrought-iron can resist per square inch—

Compression of from 12 to 13 tons.

Extension of " 16 to 18

The unexpected results thus obtained were of incalculable practical value; for, if the preliminary experiments proposed by Mr. Stephenson had not been made, he, Mr. Fairbairn, Mr. Hodgkinson, Mr. Clark, and indeed all the eminent engineers and mathematicians of the present day would—on the correct principle of everywhere adjusting the thickness of iron to the force it has to resist—have erroneously concurred in recommending that the proposed *wrought-iron* tubes for crossing the Conway and Menai Straits should be constructed stronger at bottom than at top, instead of, as it appears they ought to be, stronger at top than at bottom—in consequence of which error the aerial gallery would have been improperly weakened in one part by an amount of iron which would have unscientifically overloaded it at another, and thus, like Falstaff's "increasing belly and decreasing legs," the huge mass, with diminished strength, would have labored under unnecessary weight.

By continuing with great patience and ability the experiments above referred to, it was finally ascertained that the relative strength of *wrought* iron in the top and bottom of the tubes should be in the proportion of about 5 to 4; and whereas, had they been constructed of *cast* iron, these proportions

would have been reversed in the higher proportion of nearly 5 to 1, it may reasonably be asked why, if the latter material bears compression so much better than the former, it was not selected for the *top* of the tube? In theory this adjustment of the two metals to the force which each was peculiarly competent to resist, would have been perfectly correct. It, however, could not practically be effected, from the difficulty of casting as well as of connecting together plates 10 and 12 feet in length of the very slight thicknesses required. Mr. Stephenson, therefore, adhered to his determination to make the whole of his aerial galleries of wrought iron; and we may here observe that, to ensure the public from accident, he further resolved, that the amount of the force of extension upon them should be limited to only one-third of their power of resistance, that of compression to one-half—the reason of the difference being that, inasmuch as any little flaw in the iron would infinitely more impair its power to resist extension than compression, it was evidently safer to approximate the limits of the latter than of the former.

As the exact strength of a hollow wrought-iron tube such as was proposed was unknown to engineers, it was deemed necessary by Mr. Stephenson that its *form* as well as the disposition of its materials should be correctly ascertained. This portion of the investigation Mr. Fairbairn and his colleagues with great care and ability conducted by subjecting tubes of different shapes to a series of experiments, the results of which were briefly as follows:—

1. *Cylindrical tubes*, on being subjected to nine very severe trials, failed successively by collapsing at the top—or, in other words, by evincing inability to resist compression;—the tube, losing its shape, gradually became elongated or lantern-jawed, while the two extremities were observed to flatten or bulge out sideways—besides which the ends, which for precaution sake rested on concentric wooden beds, invariably bent inward.

2. *Elliptical tubes*, with thick plates riveted to the top and bottom, had been particularly recommended for experiment by Mr. Stephenson. These tubes under heavy pressure displayed greater stiffness and strength than round or cylindrical ones; but, after being subjected to a variety of torturing experiments of a most ingenious description, they all evinced comparative weakness in the top to resist compression. They likewise exhibited considerable distortions of form.

3. A family weakness in the head having been thus detected in all models circular at bottom and top, *rectangular tubes* were in their turn next subjected to trial. As they at once appeared to indicate greater strength than either of the other two forms had done, a very elaborate and interesting investigation was pursued by Mr. Fairbairn, who, by the light of his experiments, soon satisfied himself of the superiority of this form over the other two; and as every successive test confirmed the fact, he continued his search with an energy that has only since been equaled by the American judge who, it is said, on arriving at California, deserted the bench for the “diggings.”

The following is an abstract of the important result of about forty experiments made by Messrs. Fairbairn, Hodgkinson, and Clark, on the comparative strength of circular, elliptical, and rectangular tubes:—*Circular*, 13; *Elliptical*, 15; *Rectangular*, 21.

As soon as the rectangular was by the investigation recommended by Mr. Stephenson clearly ascertained to be the best form of hollow tube that could be selected, the next important problem to be determined by experiment was what amount of strength should be given to it, or, in other words, what should be the thickness of its top and bottom, in which, as we have shown, consisted its main power.

The investigations on this subject soon demonstrated that if, instead of obtaining this thickness by riveting together two or three layers of plates, they were, on the principle of the beam itself, placed in horizontal strata a foot or two asunder—the included hollow space being subdivided by small vertical plates into rectangular passages or flues extending along the whole top as well as bottom of the tube—an immense addition of strength, with very nearly the same weight of material, would be obtained.

This adaptation proving highly advantageous, it was deemed advisable by Mr. Stephenson that further experiments should be made by Mr. Fairbairn and his colleagues to determine finally the precise form and proportions of the great tubes. For this object an entirely new model tube, one-sixth of the dimensions of the intended Britannia Bridge, was very carefully constructed; and the cellular tops and bottoms thereof, as well as the sides, were subjected to a series of experiments until the exact equilibrium of resistance to compression and extension, as also the variations in the thicknesses of the plates

in the several parts of the tube as they approached or receded from different points of support, were most accurately ascertained.

In these as well as in all the previous experiments the trial tubes were loaded till they gave way—the results being accurately recorded and transmitted by Mr. Clark to Mr. Stephenson, who in return confidentially assisted Mr. C. with his opinion and advice. From the fibrous nature of wrought iron, as compared with the crystalline composition of the cast metal, the tendency to rupture in most of these experiments was slow and progressive. Destruction was never instantaneous, as in cast iron, but it advanced gradually; the material, for some time before absolute rupture took place, emitting an unmistakeable warning noise; just as a camel, while kneeling on the burning sandy desert, and while writhing his head from one side to the other, snarls, grunts, grumbles and groans louder and louder, as his swarthy turban-headed owners keep relentlessly adding package after package to his load.

Although it can mathematically be shown that the two sides of a thin hollow tube are of but little use except to keep the tops and bottoms at their duty—the power of resistance of the latter being, however, enormously increased by the distance that separates them—it was nevertheless necessary to ascertain the precise amount of lateral strength necessary to prevent the aerial gallery writhing from storms of wind. The riveting process was likewise subjected to severe trial, as also the best form and application of the slender ribs termed “angle-irons,” by which not only the plates were to be firmly connected, but the tube itself materially strengthened—in fact, the angle-irons were to be its bones, the thin plate-iron covering being merely its skin.

Mr. Stephenson had two main objects in instituting the investigations we have detailed. First, to determine by actual experiment what amount of strength *could* be given to his proposed galleries; and, secondly, of that maximum *how much* it would be proper for him to exert. And as his decisions on these subjects will probably be interesting to our readers, most especially to that portion of them whose fortunes or fate may doom them occasionally to fly through his baseless fabric, we will endeavor very briefly to explain the calculations on which they appear to have been based.

As a common railway train weighs upon an average less than a ton per foot,—as the greatest distances between the towers of the Britannia Bridge amount each to 460 feet,—

and as it is a well-known mathematical axiom among builders and engineers that any description of weight spread equally along a beam produces the same strain upon it as would be caused by half the said weight imposed on *the centre*—it follows that the maximum weight which a monster train of 460 feet (an ordinary train averages about half that length) could at one time inflict on any portion of the unsupported tube would amount to 460 tons over the whole surface, or to 230 tons at the centre.

Now, to ensure security to the public, Mr. Stephenson, after much deliberation, determined that the size and adjustment of the iron to be used should, according to the experiments made and recorded, be such as to enable the aforesaid unsupported portions of the tube (each 460 feet in length) to bear no less than 4000 tons over its whole surface, or 2000 tons in the centre, being nine times greater than the amount of strength necessarily required; and as the results—unexpected as well as expected—of the searching investigation which had been instituted, incontestably proved that this Herculean strength could be imparted to the galleries without the aid of the chains, which, even as an auxiliary, had been declared unnecessary—and as Mr. E. Clark had very cleverly ascertained that it would be cheaper to construct the tubes on the ground than on the aerial platform as first proposed—Mr. Stephenson determined, on mature reflection, to take upon himself the responsibility of reporting to the Directors of the Chester and Holyhead Railway that this extra catenary support, which would have cost the Company £150,000, was wholly unnecessary. Indeed, such was the superabundance of power at his command, that without adding to the weight of the rectangular galleries, he could materially have strengthened them by using at their top and bottom circular flues instead of square ones, which, merely for the convenience of cleaning, &c., were adopted, although the former were found on experiment to bear about 18 tons to the square inch before they became crushed, whereas the latter could only support from 12 to 14 tons.

But the security which Mr. Stephenson deemed it necessary to ensure for the public may further be illustrated by the following very extraordinary fact:—It has been mathematically demonstrated by Messrs. Hodgkinson and Clark, as well as practically proved by Mr. Fairbairn—indeed, it will be evident to any one who will go through the necessary calculations on the subject—that the strain

which would be inflicted on the iron-work of the longest of Mr. Stephenson's aerial galleries by a monster train sufficient to cover it from end to end, would amount to six tons per square inch:—which is exactly equal to the constant stress upon the chains of Telford's magnificent suspension Menai Bridge when, basking in sunshine or veiled in utter darkness, it has nothing to support but its own apparently slender weight!

Lateral strength.—The aerial galleries having, as above described, been planned strong enough for the safe conveyance of goods and passengers at railway speed, it became necessary to calculate what lateral strength they would require to enable them to withstand the storms, tempests, squalls, and sudden gusts of wind to which, from their lofty position, they must inevitably be exposed.

The utmost pressure of the hurricane, as estimated by Smeaton,—but which is practically considered to be much exaggerated—amounts to about 46 lbs. to the square foot; and this, on one of the large tubes (460 feet long by an average of rather less than 30 feet high) would give a lateral pressure of 277 tons over the whole surface, or of 133 tons on the centre.

To determine the competency of the model tube to resist proportionate pressure to this amount, it was turned over on its side; and, having by repeated experiments been loaded and overloaded until it was crushed, the result fully demonstrated to Mr. Stephenson's satisfaction its power to resist, according to his desire, a lateral pressure more than five times greater than that which it is in the power of the hurricane to inflict.

The experimental information required by Mr. Stephenson having, by the zeal and ability of Mr. Fairbairn, Mr. Hodgkinson, and Mr. Clark, been finally obtained, the next points for consideration came to be, where these gigantic twin-tubular galleries should be constructed, and, when constructed, by what power, earthly or unearthly—it will appear that the latter was found necessary—they should be raised to the lofty position they were decreed to occupy.

After much reflection on Mr. Clark's valuable suggestions on these subjects, Mr. Stephenson determined—1st. That the four shortest galleries, each 230 feet in length, (to be suspended at the height in some places of 100 feet between the two land towers and the abutments of the approaching embankments,) should, as he had originally proposed, be at once permanently constructed on scaf-

foldings in the positions in which they were respectively to remain; 2ndly. That the four longest galleries (each 472 feet in length), which were eventually to overhang the straits, should be completely constructed at high-water mark on the Carnarvon shore, upon wooden platforms about 400 feet westward of the towers on which they were eventually to be placed; 3rdly. That to the bases of these towers they should, when finished, be floated on pontoons, from which they were to be deposited on abutments in the masonry purposely made to receive them; and, 4thly. That the tubes should be raised to and finally deposited in their exalted stations by the slow but irresistible power of hydraulic presses of extraordinary force and size.

II. CONSTRUCTION OF THE TUBES AND TOWERS.—The locality selected for the formation of the tubes having been cleared, a substantial platform, composed of balks of timber covered with planks, was very quickly laid down.

In the rear of this immense wooden stage, which extended along the shore no less than half a mile, covering about three acres and a half, there were erected three large workshops, containing forges and machinery of various descriptions, for belaboring, punching, and cutting plate-iron. There were likewise constructed five wharves with cranes for landing materials, as also six steam-engines for constant work. The number of men to be employed was—

On iron-work about	700
At stone-work for the towers	800
Total,	1,500

Temporary shanties or wooden cottages, whitewashed on the outside, like mushrooms suddenly appeared in the green fields and woods immediately adjoining; besides which, accommodation was provided for a school-room, schoolmaster, clergyman, and in case of accidents a medical man, the whole being agreeably mixed up with a proportion of wives, sweethearts, and children, sufficient for cooking, washing, sewing, squalling, &c. Nevertheless, notwithstanding these alluring domestic arrangements, many sturdy independent workmen preferred sleeping in villages four and five miles off, to and from which they walked every morning and evening, in addition to their daily work; the remainder gipsying in the encampment in various ways, of which the following is a sample:—

An Irish laborer, known only by the name

of "Jemmy," *bought* for himself a small clinker-built room. As "lodgings," however, soon rose in price, and as he had not time to keep a pig, he resolved to be satisfied henceforward with half his tiny den, and accordingly let the remainder to a much stronger fellow-countryman, who, being still less particular, instantly let half of his half to a very broad-shouldered relation, until, like other Irish landlords we could name, poor "Jemmy" found it not only very difficult to collect, but dangerous even modestly to *ask* for, "his rint!" and thus in a short time, in consequence of similar "pressure from without," almost every chamber was made to contain four beds, in each of which slept two laborers.

As soon as the preliminary wharves, platforms, shanties, and workshops were completed, there instantly commenced a busy scene strangely contrasted with the silence, tranquillity, and peaceful solitude that had previously characterized the spot. While large gangs of masons were excavating the rocky foundations of the land towers, sometimes working in dense groups, and sometimes in "double quick time," radiating from each other, or rather from a small piece of lighted slow-match, sparkling in the jumper-hole of the rock they had been surrounding; while carts, horses, and laborers in great numbers were as busily employed in aggregating the great embankments by which these towers were to be approached; while shiploads of iron from Liverpool—of Anglesey marble from Penmon—of red sandstone from Runcorn in Cheshire—at rates dependent upon winds and tides, were from both entrances to the straits approaching or endeavoring to approach the new wharves; while almost a forest of scaffold balks of the largest and longest description—like Birnam wood coming to Dunsinane—were silently gliding toward the spot; while wagons, carts, post-chaises, gigs, horses, ponies, and pedestrians, some of the latter carrying carpet-bags and some bundles, &c., were to be seen on both sides of the straits eagerly converging across the country to the new settlement or diverging from it:—the unrelenting clank of hammers—the moaning hum of busy machinery—the sudden explosion of gunpowder—the white vapor from the steam-engines—and the dark smoke slowly meandering upward from their chimneys, gave altogether interest, animation, and coloring to the picture.

As our readers will, however, probably be anxious to know how the great tubes which

have been delineated are practically constructed, we will shortly describe the operation, which, we are happy to say, is contained in a vocabulary of only three words, these aerial galleries being solely composed of—Plates—Rivets—and Angle-Irons.

Plates.—The wrought-iron plates which form the top, bottom, and sides of the Britannia "land tubes," 230 feet in length, are, of course, slighter than those required for the four, each 460 feet, which overhang the stream.

For these long tubes—which are of the same height and breadth as the shorter ones—the dimensions of the plates are as follows:—

For the bottom.

12 feet in length, 2 feet 4 inches to 2 feet 8 inches in breadth, $\frac{7}{16}$ to $\frac{1}{2}$ inch in thickness.

For the top.

6 feet in length, 1 foot 9 inches to 2 feet 1 $\frac{1}{2}$ inch in breadth, $\frac{5}{8}$ to $\frac{3}{4}$ inch in thickness.

For the sides.

6 feet to 6 feet 6 inches in length, 2 feet in breadth, $\frac{1}{2}$ to $\frac{3}{4}$ inch in thickness.

Although these plates have been severally forged with every possible attention, yet, to render them *perfect* in thickness, they are not allowed by Mr. Stephenson to be used for the tubes until each has been passed by the Company's superintendent between two uncompromising massive iron rollers, worked by steam, which, by revolving, quietly remove or rather squeeze down that variety of pimples, boils, lumps, bumps, and humps, which from unequal contraction in the process of cooling occasionally disfigure the surface of plate iron, and which in the workman's dictionary bear the generic name of "*buckles*." When the plates, the largest of which weigh about 7 cwt., have been thus accurately flattened, they are one after another, according to their dimensions, carried by two or more men toward one of several immense cast-iron levers which, under the influence of steam, but apparently of their own accord, are to be seen from morning till night, whether surrounded by workmen or not, very slowly and very indolently ascending and descending once in every three seconds.

Beneath the short end of this powerful lever there is affixed to the bottom of a huge mass of solid iron a steel bolt—about the length, thickness, and latent power of Lord John Russell's thumb—which, endowed with

the enormous pressure of from 60 to 80 tons, sinks, at every pulsation of the engine, into a hole rather larger than itself, perforated in a small anvil beneath.

As soon as the laborers of the Department bearing each plate arrive at this powerful machine, the engineer in charge of it, assisted by the carrying-men, dexterously places the edge of the iron upon the anvil in such a position that the little punch in its descent shall consecutively impinge upon one of the series of chalk dots, which, at four inches from each other and $1\frac{1}{2}$ inch from the edge, have been previously marked around the four sides of the plate; and thus four rows of rivet-holes averaging an inch in diameter are, by the irresistible power we have described, pierced through plate-iron from one-half to three-fourths of an inch in thickness, quite as easily as a young cook playfully pokes her finger through the dough she is kneading, or as the child Horner perforated the crust of his Christmas pie, when

"He put in his thumb
And pulled out a plum,
And said—What a good boy am I!"

Some of the steam arms or levers just described are gifted with what may be termed "double-thumbs," and accordingly these perforate *two* holes at a time, or forty per minute—the round pieces of iron cut out falling, at each pulsation of the engine, upon the ground, through the matrix or perforation in the anvil.

When the plates, averaging from six to twelve feet in length by above two feet in breadth, have been thus punched all round, and before they are brought to the tube, they are framed together on the ground in compartments of about twenty plates each (five in length and four in breadth), in order to be connected to each other by what are termed *covering-plates* and *angle-irons*.

In order to prepare the former (which are half an inch in thickness, one foot in breadth, and about two feet long) they are heated in a small furnace, when, instead of passing between rollers, they are put under a stamping, or as it is technically termed a *joggling* block, which by repeated blows renders their surface perfectly flat; after which a series of holes corresponding in size as well as in distance from each other with those in the "plates" are punched all along the outer edge of each of their four sides. When thus prepared, two of these small covering plates—one on each side—are made to cover

and overlap the horizontal line of windage existing between the edges of the plates, which, as we have stated, have been previously arranged so as to touch each other; and bolts being driven through the corresponding holes of the three plates (the large plates lying between the two covering ones), they are firmly riveted together by the process we shall now describe.

Rivets.—In the construction of the Britannia tubes there have been required no less than two millions of bolts, averaging $\frac{7}{8}$ ths of an inch in diameter and 4 inches in length. The quantity of rod-iron consumed for this purpose has therefore amounted in length to 126 miles, and in weight to about 900 tons!

The mode in which these legions of rivets have been constructed is briefly as follows:

At the western end of the Company's principal forging establishment there stands a furnace or trough, full of pieces of rod-iron from $3\frac{1}{4}$ to $4\frac{1}{4}$ inches in length, packed together as closely as soldiers in a solid square of infantry. As soon as by the fiery breath of bellows worked by steam, they have been made uniformly red-hot, a little boy, whom they are all obliged to obey, rapidly and without partiality, favor, or affection, picks them out one after another through the furnace-door with a pair of pincers, from which he quietly drops them perpendicularly into eight moulds, each of which being about $\frac{3}{4}$ of an inch shallower than the length of the piece of iron it respectively receives, they of course all equally protrude about that distance above the surface.

In this position they are handed over to a pale sturdy engine-man, or executioner, who with about as much mercy as Procrustes used to evince toward those who slept on his bed, immediately places them upon an anvil, toward which there very slowly descends a huge superincumbent mass of iron pressed downward by an immense long cast-iron lever worked by steam.

By this despotic power, the red protruding portion of each little rod is by a single crunch inexorably flattened, or "fraternized:" and thus suddenly converted—*nolens volens*—into a bolt, it is no sooner thrown upon the ground, than the mould from which it was ejected is again, by the child in waiting, filled with another raw red-hot recruit, who by a process exactly the reverse of decapitation is shortened, not by the *loss* but by the *acquisition* of a head!

However, after all, just as "the Marquis of — is not the Duke of —," so is a bolt

not a rivet, nor does it become one, until, like a bar-shot, it is made double-headed, an important process which has now to be described.

As soon as each "set" of the half-inch iron plates which form the sides, top, and bottom of the Britannia tubes, have by a traveling crane been lifted—technically termed "picked up"—into their places, and have been made to touch each other as closely as possible, a moveable stage on wheels is drawn close to the outside of the tube, for the purpose of firmly connecting every set of plates to that which on each side adjoins it. This work is performed by what is termed "a set of riveters," composed of two "Riveters," one "Holder-up," and two Rivet-boys.

As soon as the two first have ascended the scaffolding on the outside of the tube, and when the Holder-up, sitting on a board suspended by ropes from the roof, has exactly opposite to them taken up his position on the inside, one of the boys quickly abstracts from a traveling furnace, conveniently placed for the purpose, a red-hot bolt, which by a circular swing of the pincers he hurls inside the tube toward the other boy, his comrade or play-fellow, who, as actively as possible, with a similar instrument snapping it up, not only runs with it toward the Holder-up, but as long as he can reach the rivet-holes inserts it for him therein. As soon as this is effected, the Holder-up presses against it an enormous iron hammer, which forces it outward until it is stopped by its own head. The red protruding bolt is now mercilessly assailed by the two Riveters, whose sledge-hammers meeting with a sturdy reaction from that of the Holder-up, which by a vast leverage or length of handle elastically returns blow for blow, the bolt, in about thirty seconds, becomes double-headed, when one of the Riveters, dropping his hammer, snatches up a steel mould about 9 inches long, called a *swage*, which he continues to hold upon the newly-formed head until his comrade, by repeated blows of his hammer, has *swaged* it into a workmanlike form.

The bolt is thus finally converted into a rivet, which, by contracting as it cools, binds together the plates even more firmly than they had already been almost cemented by the irresistible coercion of three sledge-hammers; indeed they are so powerfully drawn together, that it has been estimated it would require a force of from four to six tons to each rivet to cause the plates to slide over each other.

The bolts for the upper holes of the interior, which, being about 30 feet high, are of course completely out of the Rivet-boy's reach, are dropped by him into a concentric iron ring, which, by a wire and cord passing over a pulley attached to one of the uppermost plates, is rapidly raised, until the Holder-up is enabled by pincers to grasp the fiery iron, which, on being inserted into its hole, he then instantly, as before, presses with his hammer.

By the operations above described, "a set of riveters" usually drive per day about 230 rivets, of which in each plate there are about 18 per yard, in two rows, averaging only $2\frac{1}{2}$ inches of clear space between each bolt-head. On the large tubes alone there have been employed at once as many as 40 sets of riveters, besides 26 "platers," or men to adjust the plates, each having from three to four men to assist him; and when this well-regulated system is in full operation it forms altogether not only an extraordinary but an astounding scene.

Along the *outside* of the tube, suspended at different heights, are to be seen in various attitudes 80 Riveters—some evidently watching for the protruding red bolt, others either horizontally swinging their sledge-hammers, or holding the rivet-swage.

In the *inside* of this iron gallery, which is in comparative darkness, the round rivet-holes in the sides as well as in the roofs, not only appear like innumerable stars shining in the firmament of heaven, but the light beaming through each forms another as bright a spot either on the ground or on the internal surface of the tube. Amidst these constellations are to be faintly traced, like the figures on the celestial globe, the outlines of the Holders-up, sitting at different altitudes on their respective stages. Beneath them 40 or 50 Rivet-boys are dimly seen, some horizontally hurling red-hot bolts, others with extended pincers running forward with them, while fiery bolts, apparently of their own accord, are to be observed vertically ascending to their doom. This cyclopean dance, which is of course most appropriately set to music by the deafening reverberations of 70 or 80 sledge-hammers, is not altogether without danger, for not only does a "holder-up" from a wrong movement occasionally—like a political Phaëton—all of a sudden tumble down, but the rivet-boys, generally unintentionally, but occasionally, it is said, from pure mischief, burn each other more or less severely, in which cases a couple of these little sucking Vulcans, utterly un-

able, from incessant noise, to quarrel by words, fall to blows, and have even been observed to fight a sort of infernal duel with pincers, each trying to burn his opponent anywhere and everywhere with his red-hot bolt!

But by far the most curious part of the riveting process is to be seen on the flat roof or top of the tube. This immense deck, which we have already stated to be 472 feet in length, is composed of a pavement of plates to be connected together by 18 longitudinal rows of rivets, the heads of which are to be only $2\frac{1}{2}$ inches apart. Beneath this surface, at a depth of only 1 foot 9 inches, there is, to give additional strength, a similar stratum of plates, the space included between both being divided into eight compartments called flues, 21 inches deep by 20 inches broad, exactly resembling those of a common stove. After the horizontal bottoms and upright sides of these eight flues have been firmly connected together by the battering process we have just described, the upper stratum of plates are loosely laid down, and, being thus by the superincumbent weight of the iron covering securely adjusted, their final connection is effected as follows:—

A tiny rivet-boy—we observed one little mite only ten years of age—in clothes professionally worn into holes at the knees and elbows—crawling heels foremost for a considerable distance into one of these flues as easily as a yellow ferret trots into a rabbit-hole, is slowly followed by his huge lord and master *the holder-up*, who exactly fits the flue, for the plain and excellent reason, that by Mr. Stephenson the flue was purposely predestined to be exactly big enough to fit *him*; and as, buried alive in this receptacle, he can move but very slowly, he requires some time, advancing head foremost, to reach the point at which he is to commence his work. On arriving there, his first process, lying on his left side, is with his right hand to pass through one of the rivet-holes in the plate above him a little strong hook, to which is attached a short hempen loop, or noose, which, supporting the heavy end of his huge hammer, forms a fulcrum upon which he can easily raise it against the roof, simply by throwing his right thigh and leg over the extremity of the long lever or handle of the instrument.

When similar preparations, by the injection of other little Rivet-boys and other stout Holders-up into several of the other flues, have been made, the signal for commencing operations is given by several red-hot bolts

falling apparently from the clouds, among the Riveters, who, leaning on their sledge-hammers, have been indolently awaiting their arrival. These bolts have been heated on the outside of the tube on the ground immediately beneath, in a portable furnace, from which a gang of lithesome rivet-boys in attendance extract them as fast as they are required, and then walking away with them, without looking upward, or apparently caring the hundred-thousandth part of the shaving of a farthing where they may fall, or whom they may burn, they very dexterously, by a sudden swing of their pincers, throw them almost perpendicularly about 45 feet, or about 10 feet higher than the top of the tube, upon which, as we have stated, they fall among the assembled riveters as if they had been dropped from the moon.

As soon as these red-hot meteors descend upon the flat roof, another set of rivet-boys eagerly snap them up, and each running with his bolt, not to the spot where it is required, but to one of certain holes in the plate made on purpose for its insertion, he delivers it into the pincers of the little sweep, rivet-boy, or *Ascanius* within the flue, who, having been patiently waiting there to receive it, crawls along with it toward his Pius *Æneas*, the stout recumbent *holder-up*. As soon as he reaches him he inserts for him the small end of the bolt into the hole for which it has been prepared, and through which, in obedience to its fate, it is no sooner seen to protrude, than the sledge-hammers of the expectant riveters, severely jerking at every blow the heavy leg of the poor holder-up, belabor it and "*swidge*" it into a rivet.

The red-hot iron—unlike the riveters—cools during the operation we have just described; and even if a by-stander, from being stone-blind, could not see the change in its temperature, it could easily be recognized by the difference in the *sound* of the hammers between striking the bolt while it is soft and hot, and when it has gradually become cool and hard. But whatever may be the variety of colors or of noises which accompany the formation of every one of these roof-rivets, it is impossible to witness the operation we have just described without acknowledging, with a deep sigh, how true is the proverb that "one half of the world," especially the rich half, "does not know how the other half lives;" indeed, unless we had witnessed the operation, we could scarcely have believed that any set of human beings, or rather of fellow-creatures, could professionally work from morning till night, stuffed

horizontally into a flue of such small dimensions,—that they could endure the confinement which only allows them, by changing from one side to another, to throw sometimes the right leg and sometimes the left over the elastic handle of a hammer,—and above all that they could bear the deafening noises created close to and immediately thundering into their very ears!

In attentively watching the operations just described, we observed that at the *sides* of the tube it required generally eighteen blows of the hammer to flatten the end of the bolt, and then twelve blows on the "*swage*" to finish the head of the rivet; whereas, on the *roof*, the former operation was usually effected by only twelve blows, and the latter by eight or nine. At first, we conceived that this difference might be caused by a reduction in the sizes of the plates and bolts: but those in the roof proving to be the thickest and longest, we, on a few moments' reflection, ascertained that the reduction of labor in riveting the roof is caused by the sledge-hammers descending upon it by gravity as well as by the main strength of the riveters; whereas, at the *sides*, they are worked by the latter power only.

The operation cannot of course be carried on when the weather is either windy or wet. The riveters, holders-up, and rivet-boys very properly receive high wages. The first of these classes, however, strange to say, look *down* upon the holders-up as their inferiors, or rather as their menials; and again, the holders-up bully the little ragged-elbowed rivet-boys who wait upon *them*; but so it is, not only over the whole surface of the earth, but in the deep blue sea! In the stomach of the shark we find a dolphin, in whose stomach there is found a flying-fish, which, on dissection, has been found to have preyed on a smaller tribe, and so on. We have, therefore, no unkind reflection to cast upon "riveters," "holders-up," or "rivet-boys" for frowning upon, bullying, or burning each other.

Angle-Irons.—The plates of the tubes, having throughout been scientifically adjusted in the different positions best suited to resist the variety of strains to which, from external or internal causes, they can possibly be subjected, are finally connected together by small ribs, which are firmly riveted to the plates. The quantity of *angle-iron* thus worked through the top, bottom, and sides of all the tubes amounts to no less than sixty-five miles! The sides are, moreover, connected to the top and bottom of each tube

by small triangular plates, called *gussets*, which powerfully prevent the bridge from twisting or writhing under the lateral pressure of the wind.

III. THE FLOATING OF THE TUBE.—*The Gathering.*—On the principle of "*Quæ regio in terris nostri non plena laboris?*" we determined, in the family way, to join that respectable crowd of brother and sister reviewers, ill-naturedly called "gapers and gazers," who from all parts of the United Kingdom of Great Britain and Ireland, from the Continent of Europe, and even from the United States of America, were, in various degrees of agitation, inquisitively converging upon North Wales, for the purpose of beholding something which, although unanimously declared to be "quite new," few appeared very clearly to understand.

All agreed that the wonder they wished to witness was *The Britannia Bridge*: but what was its principle or its form, what it was to do, or what was to be done to it, no person appeared able to explain to anybody. Some nasally "guessed" it was to be raised; others—*ore rotundo*—positively declared it was to be only floated. One man truly enough affirmed "it was to go from earth to earth, straight through the air, to avoid the water"—but by which or by how many of these three elements, or by what other powers, the strange transaction was to be effected, deponent, on cross-examination, was utterly unable to detail.

As the railway from Chester—where the principal portion of the travelers had concentrated—has for several miles been constructed along the sands of the Irish Sea, the passengers during that portion of their journey had ample space and opportunity for calm observation or reflection: as soon, however, as the heavily-laden trains reached Rhyl, there was gradually administered to the admirers of the picturesque a strange dose of intense enjoyment, mixed up with about an equal proportion of acute disappointment.

In flying over the valleys and round the hills and mountains of North Wales, there repeatedly glided before their eyes a succession of scenery of a most beautiful description, which, illuminated by the sunshine of heaven, appeared, as they approached each great impending mountain, to be exquisitely improving: until all of a sudden—just as if the pestilential breath of an evil spirit had blown out the tallow candle of their happiness—nothing in this world was left to occupy their senses but the cold chilly air of a

damp dungeon rushing across their faces, a strong smell of hot rancid grease and sulphur traveling up their noses, and a loud noise of hard iron wheels, rumbling through a sepulchral pitch-dark tunnel, in their ears.

Hundreds of most excellent people of both sexes, who had been anxiously expecting to see

"The rock—whose haughty brow
Frowns o'er old Conway's foaming flood,"

were grievously chagrined and most piteously disappointed by being told—as, like a pea going through a boy's pea-shooter, they were unintellectually flying through a long iron tube—that they were at that very moment passing it, Straits, Castle, and all. However, the balance of the account current was, on the whole, greatly in their favor, and thus, in due time and in high good humor, all reached Bangor in safety.

It need hardly be said that, early in the morning of the day, or rather of the evening, on which the important operations at the Britannia Bridge were actually carried into effect, every boat that could be engaged, every bus, carriage, wagon, gig, cart, and hack-horse that could be hired in Bangor, Beaumaris, as well as in the neighboring towns and villages, were in requisition to convey, by repeated trips, the curious to the object of their curiosity—and certainly on reaching it the picture exhibited was one not very easy to be described.

The first amusing moral that irresistibly forced itself upon us, as our conductor with outstretched whip was endeavoring almost in vain to drive through the crowd, was, that of the many thousands of human beings who at considerable trouble and expense had assembled, more than nine-tenths were evidently wholly and solely absorbed in subjects which, though highly interesting, were alien to the purpose for which they had congregated!

Numbers of persons with heated faces, standing around small tables, allocated in various directions, were intently occupied in quaffing off a beautiful unanalyzed pink effervescing mixture, called by its proprietor "*ginger beer*."

The dejected countenance of Punch's English half-starved dog, as, dead-tired of the gallows scene, he sat exalted on his tiny platform, was strangely contrasted with the innumerable sets of strong grinning Welsh teeth and bright eyes, that in joyous amphitheatre were concentrated upon him. In

several spots the attention of stooping groups of "ladies and gentlemen" horizontally looking over each other's backs, was solely engrossed in watching what no one passing could possibly perceive—some trick of rude legerdemain upon the ground. On a small eminence the eyes of hundreds, as they stood jammed together, were elevated toward a jaded white-cheeked harlequin, and a very plump, painted-faced young lady in spangled trowsers and low evening frock, who, on the elevated stage on which they stood, jumped, kicked with both legs, and then whirled violently on one, until the rustic clown, thoroughly satisfied with the sample, and unable to resist the alluring cymbals and brass trumpet that accompanied it, slowly ascended the ladder, surrendered his penny, and then, with his back turned toward the crowd, descended into a canvass chamber to wait, or rather on a rough wooden bench to sit, like Patience on a monument smiling at Hope.

Long rectangular booths, open at three sides, appeared filled with people, in great coats and in petticoats, seated around a table, all seriously occupied in silent mastication. In the moving crowd some were evidently searching for the party they had lost, while others, suddenly stopping, greeted friends they had not expected to meet.

Among the motley costumes displayed, by far the most striking was that of the Welshwomen, many of whom were dressed in beautiful gowns protected by frock-coats,—their neatly-plaited white caps, surmounted by large black hats, such as are worn elsewhere by men, giving to their faces, especially to the old, around whose eyes the crows'-feet of caution were to be seen deeply indented, an amusing appearance of doubtful gender, which—it occurred to us at the time—the pencil of HB, with its usual wit, might, in illustration of the Epicene policy of the day, very faithfully transcribe. But whatever were the costumes, the ages, condition, or rank of the immense crowd of both sexes through which our old-fashioned vehicles slowly passed, everything that occurred seemed to elicit merriment, happiness, and joy. It was, in fact, a general holiday for all; and as boys out of school make it a rule never to think of their master, so apparently with one consent had the vast assemblage around us good-humoredly agreed together to cast aside the book they had intended to read—to forget the lesson they had purposely come to study.

By the kind attention of one of the Com-

pany's servants we were conducted in a small boat half way across the rapid currents of the Menai Straits to the Little Rock, then completely beneath the water—upon which, under the able direction of Mr. Frank Forster, engineer of the line from Bangor to Holyhead, there had been erected (on a base embedded in pure Roman cement of 62 feet by 52 feet) the Britannia Tower, which, still surrounded by its scaffolding, majestically arose out of the middle of the stream to a height of 230 feet.

This enormous structure, which weighs upward of 20,000 tons, and which, from being roughly quarried or hewn, displays on the outside the picturesque appearance of natural rock, is a conglomeration of 148,625 cubic feet of Anglesey marble for the exterior—144,625 cubic feet of sandstone for the interior—and 387 tons of cast-iron beams and girders worked in, to give strength, solidity, and security to the mass. The only way of ascending was by a series of ladders, communicating, one above another, with the successive layers of horizontal balks, of which this immense pile of well-arranged scaffolding was composed—and accordingly, hand over hand and step by step we leisurely arose until we reached a small platform 15 feet above the pinnacle of the tower.

The view was magnificent. On the east and west were to be seen glittering in large masses the Irish Sea and St. George's Channel, connected together by the narrow Straits, whose silvery course, meandering in the chasm beneath, was alike ornamented and impeded by several very small rocks and islands, round and about which the imprisoned stream evidently struggled with great violence. Upon two or three of these little islands was to be seen, like a white speck, the humble cottage of the fisherman, who alone inhabited it. About a mile toward the Irish Sea there gracefully hung across the stream, in a festoon, which, in the annals of science, will ever encircle the name of Telford, his celebrated Suspension Bridge, over which a couple of horses, appearing like mice, were trotting.

On the north lay extended a verdant country, surmounted in the direction of the new railroad by the great Anglesey column, erected by the surrounding inhabitants to the noble Commander of the Cavalry at Waterloo. About two hundred yards beneath this splendid testimonial, and adjoining to a little isolated church, there modestly peeped up a very small free-stone obelisk, erected by the workmen of the tower on

which we stood as an humble but affecting tribute of regard to some half-dozen of their comrades, who—poor fellows!—had been killed in the construction of the Britannia Bridge.

On the south the horizon appeared bounded, or rather fortified by that range of mountains, about forty miles in length, which bear the name of Snowdon, and among which, the loftiest, stands the well-known Patriarch of the group. Between the base of these hills and the Straits was the little wooden city built for the artificers and workmen, its blue slates and whitewashed walls strongly contrasting with each other. In this vicinity we observed, in large masses and patches, the moving multitude through which we had just driven, and who, unsatiated with enjoyment, were still swarming round one object after another, like bees occasionally dispersing only to meet again.

Lastly, close to the shore, on their wooden platform, from which the crowd, by order of Captain Moorsom, R. N., was very properly strictly excluded, there stood, slightly separated from each other, the sole objects of our journey—namely, the two sets of hollow tubes, four in number, which, under the sole superintendence of Mr. Edwin Clark, had been constructed as the aerial passages for the up and down trains across the Straits. Being each 472 feet in length, and being also of the height of an ordinary two-storied dwelling, they all together appeared like a street or row of chimneyless houses half a mile long, built on the water's edge; indeed, if windows and doors had been painted upon them, the resemblance would have been perfect. Of the four lengthy compartments the two on the eastern extremity, and that on the western end, had been painted red; the remaining one, which in a few hours was not only to be launched but floated down the stream to the very foot of the tower on which we stood, had been finished in stone-color.

We would willingly conclude our slight panoramic picture by describing the appearance of the moving water gliding past the foot of the tower far beneath; but on going to the edge of the masonry to look down at it, we must confess that we found it to be utterly impracticable to gaze even for a moment at the dizzy scene.

In descending from the eminence we had been enjoying, we paused at 50 feet from the top to inspect the steam-engine and boiler therein inserted for working two hydraulic presses, which principally reposed upon a

wall 10 feet 6 inches thick, the other three walls being 7 feet 6 inches in thickness. At 107 feet from the top, and at 103 feet from the water, we again stopped for a few minutes to enter the immense passage in the Britannia Tower, through which—strange to think—trains full of up and down passengers at railway speed are to pass and repass each other. The ends of the tubes from the Anglesey and Carnarvon Towers, now reposing far away on the beach, meeting at this point on immense cast-iron plates interposed on the masonry to secure an equal pressure, are not only to be firmly connected together, but are to be substantially riveted to the fabric. To the opposite ends of these tubes, the extremities of those passing from the embankment to the two land towers just named are also in like manner to be firmly connected; by which means each aerial gallery will eventually be composed of a single hollow iron beam 1513 feet in length, far surpassing in size any piece of wrought iron-work ever before put together—its weight, 5000 tons, being nearly equal to that of two 120-gun ships, having on board, ready for sea, guns, powder, shot, provisions, crew, flags, captains, chaplains, admiral, and all!

Lastly, to bring the component parts of this not only extended but attenuated mass of iron into vigorous action, or in other words, to enable it to exert its utmost possible strength, Mr. Stephenson has directed that after the component parts of each of the two parallel tubes have, by the process already described, been firmly riveted into one continuous hollow beam, the extremities thereof shall be lowered about 15 inches, by taking away the false keels or foundations, on which in their construction they had purposely been raised. By this simple operation it is estimated that the tube will receive a strength of 30 per cent. in addition to that which it possessed in separate lengths, and without the precise amount of tension so scientifically devised. When thus finally completed, its total length will amount to no less than 1841 feet.

To enable this enormous mass of thin plate-iron—(the middle of which, as we have stated, is to be firmly riveted to that passage through the Britannia Tower to which we have descended)—comfortably to expand itself and contract according to the temperature of the weather—a yawning enjoyment which requires the space of about 12 inches—a number of cast-iron rollers, as well as of balls of gun metal, all six inches in diameter, have been placed on immense cast-

iron frames deposited on the land towers and abutments—so that the tubes, like the tide beneath them, may freely flow forward or ebb backward at their free will and pleasure, or rather according to the immutable laws of the Omnipotent Power by which they have been created.

On crawling upon our hands and knees through a gap or hole in the masonry of the Britannia Tower, which had been kept open for the purpose of passing through it a stout hawser for hauling to its destination the floating tube, we suddenly perceived at its base lying prostrate immediately beneath us—on a large platform, latticed like the grating of a ship, and under which the deep stream was rushing with fearful violence, boiling, bubbling around, as well as dimpling along the piles that obstructed it—what at the first glance very much resembled the main-sail of a man-of-war stretched out to dry, but which we soon discovered to be a conglomeration of the earth-stained fustian jackets, fustian trowsers, dusty stockings, hob-nailed shoes, red sun-burnt faces and brown horny fingers of a confused mass of over-tired laborers, all dead asleep under the stiff extended bars of the capstan which they had constructed, and at which they had been working.

Although they were lying, what in country parlance is termed “top and tail,” jammed together so closely that in no place could we have managed to step between them, not a single eye was open, or scarcely a mouth shut. The expression of their honest countenances, as well as of their collapsed frames, plainly told not only how completely they had been exhausted, but how sweet was the rest they were enjoying. In the right hands of several of them, old stumpy pipes of different lengths, also exhausted, were apparently just dropping from their fingers, and while the hot sun was roasting their faces and bare throats, a number of very ordinary blue-bottle flies in search of some game or other were either running down their noses and along their lips to the corner of their mouths, or busily hunting across the stubble of their beards.

Although for some time “we paced along the giddy footing of the hatches” on which they were snoring, gazing sometimes at them, sometimes at the wild scenery around them, and sometimes at the active element that was rushing beneath, no one of the mass awakened or even moved, and thus, poor fellows! they knew not, and never will know, the pleasure we enjoyed in reviewing them!

On rowing from Britannia Rock, we had, of course, a full view of the remainder of the masonry, containing all together no less than 1,500,000 cubic feet of stone, of which this stupendous work is composed. As, however, it would be tedious to enter into its details, we will merely, while our boat is approaching the shore, state, that the towers and abutments are externally composed of the gray roughly-hewn Anglesey marble we have described; that the land-towers, the bases of which are the same as that of the Britannia, are each 198 feet above high-water, and that they contain 210 tons of cast-iron girders and beams.

The four colossal statues of lions—we must not compare them to sentinels, for they are couchant—which in pairs terminate the land ends of the abutments that on each side of the straits laterally support its approaching embankment—are composed of the same marble as the towers. These noble animals, which are of the antique, knocker-nosed, pimple-faced Egyptian, instead of the real Numidian form, although sitting, are each 12 feet high, 25 feet long, and weigh 30 tons. Their appearance is grand, grave, and imposing—the position they occupy being 180 feet in advance of the entrances into the two tubes, which so closely resemble that over the drawbridge into a fortress, that one looks up almost involuntarily for the portcullis.

The net-work of scaffolding, nearly 100 feet high, upon which the short tubes communicating from the Anglesey abutments to the land-tower, had been permanently constructed, not only appeared highly picturesque, but was very cleverly composed of large solid balks of timber from 12 to 16 inches square, and from 40 to 60 feet in length.

The Floating of the Tube.—On landing we, of course, proceeded to the long range of tubes, or streets, we have described.

The arrangements which Mr. Stephenson had devised for floating the first of them to its destination were briefly as follows:—

As soon as this portion of the gallery was finally completed, the props upon which it had rested at a height above the wooden platform sufficient to enable artificers to work beneath it, were removed, so as to allow it to be supported only at its two extremities. The result of this trial satisfactorily demonstrated the accuracy of the calculations upon which the tube had been purposely constructed circular at bottom to the height or camber of nine inches, in order that when

it assumed its proper bearing, it should become perfectly straight—which it did.

During its formation, a portion of the wooden platform under each of its ends was cut away, and the rock beneath excavated, until on either side there was formed a dock just large enough to admit four pontoons, each 98 feet long, 25 feet wide, and 11 feet deep. When these docks were completed, the eight pontoons,—scuttled at the bottom by valves, which could either let in or keep out the water at pleasure,—were deposited at their posts; and though their combined power of floatage amounted to 3200 tons, the weight of the tube with its apparatus being only 1800 tons, yet, in consequence of the valves being kept open so as to allow the tide to flow in and out, they lay on their bottoms like foundered vessels; and thus it was curious to see crouching, as it were, in ambush beneath the tube a dormant power, only waiting for the word of command, *up and at 'em*, to execute the duty they were competent to perform.

Besides these arrangements Mr. Stephenson, in pursuance of a plan which had been deliberately committed to paper, had ordered the construction, on the Anglesey and on the Carnarvon shores, as also on stages constructed on piles at the Britannia Rock, of a series of capstans, communicating with the pontoons by a set of ropes and hawsers more than two miles in length. Of these the principal were two four-inch hawsers, or leading-strings, between which, like a captive wild elephant between two tame ones, the tube was to be safely guarded, guided, and conducted from its cradle to its position at the feet of the Anglesey and Britannia towers.

These preparations having been all completed, and every man having been appointed to his post, the valves in the eight pontoons were closed, in consequence of which they simultaneously rose with the tide, until their gunwales, like the shoulders of Atlas, gradually received their load.

At this moment the few who had been admitted to the spot watched with intense anxiety the extremities of the tubes, which, from the severe pressure they had been inflicting, had, in a slight degree, forced their way into the wooden balks that supported them. By degrees this pressure was observed perceptibly to relax, until a slight crack, and then a crevice, was seen to exist between the old points of contact. In a few seconds this crevice was converted into daylight, amidst a general whisper of exultation

announcing, "It's AFLOAT!" The tube, however, was still firmly retained in its dock by two conflicting powers—namely, one set of hawsers, maternally holding it to the quiet home on which it had been constructed—and another set from the shore diametrically opposite, hauling it outward to its destiny.

At this moment we ascended, by a long ladder, to the top of the tube, and had scarcely reached it when Mr. Stephenson very quietly gave the important word of command—*Cut the land attachments!* Some carpenters, all ready with their axes, at a few strokes nearly severed the strands, and the tension from the opposite hawsers bursting the remainder, the long street, upon whose flat roof we stood, slowly, silently, and majestically moved into the water.

As the two extremities of the floating tube had been in alignment with those of the tubes on each side, which of course remained stationary, and whose roofs were loaded with well-dressed spectators, its advance was as clearly defined as that of a single regiment when, leaving its division to stand at ease, it marches by word of command from the centre out in front of its comrades.

Upon the deck or roof of the tube, which we may observe had no guard or railing, there was nailed Mr. Stephenson's plan, exhibiting the eight positions or minuet attitudes which the floating monster was to assume at different periods of its voyage; and, as it had 100 feet to proceed before its first change, we had leisure to gaze upon the strange, interesting scene that surrounded us.

From the lofty summit of the Britannia Tower, surmounted by the Union Jack, to those of the Anglesey and Carnarvon Towers on either side of it, were suspended, in two immense festoons, flags of all colors and of all nations. Every vessel at anchor, every steamer under weigh, as well as several houses on shore, were similarly ornamented. At different points on each coast, and especially upon every eminence, were congregated large variegated masses of human beings. The great green woods of Carnarvon seemed literally swarming alive with them, and, to add to the audience, a large steamer—arriving almost too late—as it scuffled to a safe position, exhibited a dense mass of black hats and showy bonnets, enlivened by a brass band, which was not unappropriately playing "Rule Britannia," the breeze wafting along with it the manly, joyous song of the sailors who, at the cap-

stans on the opposite shore, were cheerily hauling in the hawsers upon which, for the moment, the thread of our destinies depended.

On arriving at Position No. 2, it became necessary to exchange the mechanical power by which the tube had been forced forward, for that of the tide, which was to carry it end foremost down the stream to its goal. As, however, this latter power—to say nothing of a strong breeze of wind which drove the same way—would have propelled the lengthy mass more than twice as fast as it had been declared prudent it should proceed, a very strong power, by means of a small capstan, was exerted in each set of pontoons, to compress between wooden concentric clamps, the guide hawsers, by which contrivance the pace was regulated with the greatest possible precision. This most important duty was confided to, and executed by, two volunteer assistants, Mr. Brunel and Mr. Locke (we rank them alphabetically); and, although the whole scene of the flotation was one of the most interesting it has ever been our chequered fortune to witness, there was no part of it on which we gazed, and have since reflected with such unmixed pleasure, as the zeal and almost over-anxiety with which Mr. Stephenson's two competitors in fame, stood, during the whole operation, intently watching him, until by either mutely raising his arms horizontally upward, or in like manner slowly depressing them, he should communicate to them his desire that the speed might be increased or diminished.

But besides regulating the speed, it was repeatedly necessary, especially at the points we have enumerated, slightly to alter the position of the tube by means of capstans, often working together with combined powers on different points of the shores. Orders to this effect were silently communicated by exhibiting from the top of the tube large wooden letters, and by the waving of flags of different colors, in consequence of which, the men of the distant capstans belonging to the letters telegraphically shown, were, at the same moment, seen violently to run round as if they had suddenly been electrified. Indeed, at one point, the poor fellows were all at once thrown upon their backs, in consequence of the rupture of the capstan-stop.

The duties of Captain Claxton—whose scientific and nautical acquirements had previously been evinced by floating the Great Britain at Dundrum—were highly important.

Besides the experienced opinions he had contributed, he had sole command of the whole of the marine force, and accordingly from the top of the tube he continually communicated through his trumpet his orders to various small boats which, as floating aide-de-camps, attended upon him.

As he was getting ashore in the morning, we happened to see one of his crew, by suddenly pulling in the bow-oar, strike him so severely on the forehead, that the blood instantly burst forth, as if to see who "so unkindly knocked." In half-a-dozen seconds, however, his pocket-handkerchief was tied over it, and he was giving his orders, if possible, more eagerly than before.

"Jack!" said a sailor from another boat, as with a quid in his cheek he slowly walked up to the coxswain, "*what's the matter with the Cappen's head?*"

"*A hoar struck him,*" replied the sailor to his brother "blue-jacket," who at once appeared to be perfectly satisfied, as if he professionally knew that it was in the nature of an oar to do so.

When the tube was about the middle of its transit, a slight embarrassment occurred, which for a few minutes excited, we afterward were informed, considerable alarm among the spectators on shore. In one of the most important of our changes of position, a strong hawser, connecting the tube with one of the capstans on the Carnarvon beach, came against the prow of a small fishing-boat, anchored in the middle of the stream by a chain, which so resolutely resisted the immense pressure inflicted upon it, that the hawser was bent into an angle of 100 degrees. The coxswain of a gig, manned by four hands, seeing this, gallantly rowed up to the boat at anchor, jumped on board, and then with more zeal than science, standing on the wrong side of the hawser, immediately put a handspike under it to heave it up. *That man will be killed*—said Mr. Stephenson very quietly. Captain Claxton vociferously assailed him through his trumpet, but the crew were Welsh, could not understand English, and accordingly the man, as if he had been applauded, exerting himself in all attitudes, made every possible exertion not only to kill himself, but his comrades astern, who most certainly would also have been nearly severed by the hawser, had it been liberated; but a tiny bump or ornament of iron on the boat's head, providentially made it impossible, and the hawser having been veered out from ashore, the tube instantly righted.

The seventh movement brought the foremost end of the tube about 12 feet past the Anglesey Tower, and the rear end being now close to its destination, the hook of an immense crab or pulley-block passing through a hole purposely left in the masonry of the Britannia Tower was no sooner affixed to it than the workmen at the capstan on piles, whom we described as asleep, instantly ran round, until the tube was by main strength dragged—like the head of a bullock in the shambles—to a ring from which it could not possibly retreat. By a combination of capstan-power on the North shore, the foremost or opposite end was now drawn backward until it came to the edge of the Anglesey Tower; and although we were aware that the measurements had of course been accurately predetermined, yet it was really a beautiful triumph of Science to behold the immense tube pass into its place by a windage or clear space amounting, as nearly as we could judge it, to *rather less than three quarters of an inch*.

The tube having now evidently at both ends attained its position over the stone ledge in the excavation that had been purposely constructed for it, a deafening—and, to us, a deeply-affecting—cheer suddenly and simultaneously burst out into a continuous roar of applause from the multitudes congregated in all directions, whose attention had been so riveted to the series of operations they had been witnessing, that not a sound had previously escaped from them; nor had they, in any place, been seen to move from the spots at which they either stood or sat.

Mr. Stephenson took no notice whatever of this salute; indeed we much question if he even heard it, for his attention was intently occupied in giving to his able and confidential assistant, Mr. Wild, directions respecting the final adjustment of the temporary fastenings by which the tube was to be retained; but the crowd of spectators—like that at a theatre when the curtain of the after-piece drops—were already seen hurrying away in all directions, by steam, by boats, by carriages, and on foot, until, in the brief course of an hour, both coasts were clear. The tide, however, during the operations we have described had become high, had turned, and was now beginning to be violent; the valves therefore having been partially drawn up, the pontoons, as they gradually filled, sank, until the widely-separated ends of the tube slowly descended to their respective shelf or ledge on each tower; and the discarded power that had successfully transported the vast gallery across the water then floating away with the stream—

gently transferred from one element to another—it was thus left in the aëriform position it had been planned to occupy.

During the operations we have detailed there were, of course, made by the spectators of both sexes a variety of observations of more or less wisdom, of which our limits will only allow us historically to record a single sample.

"*Dear me !*" said an old gentleman, as the tube when it first swung across the Straits was in perspective seen approaching the platform on which he sat, and which was immediately in front of the awful chasm between Britannia and Anglesey Tower, "*they have surely been and made it too short ; they must put a bit on !*" As soon, however, as, veering round, it approached him broadside foremost, he whispered, "I'm quite sure it's too long ; they'll have to cut a piece off !"

A lady said to her companion, "*Mr. Stephenson appeared dreadfully excited during the passage ! Didn't you observe how he kept continually stretching out his arms, raising them up and then sinking them down in this way ?*" (suited her words to the actions by which the speed of the voyage had calmly been regulated). "*But no wonder he was so agitated !*"

The Company's servants were engaged until long after sunset in securing and placing in safety the various materials, &c., that had been in requisition during the day, and it was not till past midnight that, over-tired, they managed one after another to retire to rest.

On the following morning, after we had bidden adieu to the hospitable inmates of a small wooden habitation, beneath the Anglesey Tower, in which we had been very kindly received, we had occasion to pass near to a stand which had purposely been constructed in a peculiarly advantageous position, to enable the Directors of the Chester and Holyhead Railway to witness the operation. Upon the centre bench of this platform—the ground far around which was partially covered with bits of orange-peel, greasy papers that had contained sandwiches, and other scraps, indicative of an intellectual feast that was over,—we observed, reclining entirely by himself, a person in the easy garb of a gentleman, who appeared to be in the exquisite enjoyment of a cigar, whose white smoke in long expirations was periodically exuding from his lips, as with unaverted eyes he sat indolently gazing at the aërial gallery before him. It was the father looking at his new-born child ! He had strolled down from Llanfairpwllgwyn-

gyll, where, undisturbed by consonants, he had soundly slept, to behold in sunshine and in solitude that which during a weary period of gestation had been either mysteriously moving in his brain, or like a vision—sometimes of good omen and sometimes of bad—had by night as well as by day occasionally been flitting across his mind.

Without, however, presuming to divine, from the rising fumes of a cigar, the various subjects of his ruminations, we will merely confess that, on looking up from our boat, as it glided away, at the aërial gallery he was contemplating, we were astonished to find ourselves very much in the frail predicament of mind of the old gentleman of yesterday whose emotions we so accurately delineated—for when the tube was lying on the Carnarvon shore we certainly fancied that it looked too heavy and too high for its object, whereas it now appeared almost too light and too low : in short, it had assumed the simple appearance which, in principle, it had been designed to bear—that of a rectangular hollow beam ; and although it had in fact annulled the awful chasm between the Anglesey and Britannia Towers, nevertheless, by exactly measuring it, it now appeared considerably to have increased it !

Moreover, in viewing this low narrow passage—only 15 feet by 30—which, without cuneiform support, was stretching half across the Menai Straits—(it has been quaintly observed by Mr. Latimer Clark, in the clever pamphlet named at the head of this article, that if this single joint of the tube could be placed on its tiny end in St. Paul's Churchyard, it would reach 107 feet higher than the cross)—it seemed surprising to us that by any arrangement of materials it could possibly be made strong enough to support even itself, much less heavily-laden trains of passengers and goods, flying through it, and actually passing each other in the air, at railway speed. And the more we called reason and reflection to our assistance, the more incomprehensible did the mystery practically appear ; for the plate-iron of which this aërial gallery is composed is literally *not so thick* as the lid, sides, and bottom which, by heartless contract, are required for an elm coffin 6½ feet long, 2¼ feet wide, and 2 feet deep, of strength merely sufficient to carry the corpse of an emaciated, friendless pauper from the workhouse to his grave !

The covering of this iron passage, 1841 feet in length, is literally not thicker than the hide of the elephant ! Lastly, it is scarcely thicker than the bark of the "good old En-

glish" oak ; and if this noble sovereign, notwithstanding the "heart" and interior substance of which it boasts, is, even in the well-protected park in which it has been born and bred, often prostrated by the storm, how difficult is it to conceive that an attenuated aërial hollow beam, no thicker than its mere rind, should by human science be constituted strong enough to withstand, besides the weights rushing through it, the natural gales and artificial squalls of wind to which throughout its immense length, and at its fearful height, it is permanently to be exposed !

IV. RAISING THE TUBES.—*Hydraulic Press*.—Although the tube, resting at each end upon the ledge or shelf that had been prepared for it, had been deposited high enough to allow an ordinary boat to row under it, yet the heaviest job still remained—that of raising it about 100 feet to its final resting-place. This operation, which might be compared to lifting the Burlington Arcade to the top of St. James's Church—supposing always that the said church arose out of very deep, rapid water—was, as we have already stated, to be performed by the slow but irresistible agency of hydraulic power ; and as one of the presses used is said not only to be the largest in the world, but the most powerful machine that has ever been constructed, we will venture to offer to those of our readers who may never have reflected upon the subject, a brief, homely explanation of the simple hydrostatic principle upon which that most astonishing engine, the hydraulic press invented by Bramah, is constructed.

If the whole of the fresh water behind the lock-gates of a canal communicating directly with, say the German Ocean, were to be suddenly withdrawn, it is evident that the sea-side of the gates would receive water-pressure, and the other side none.

Now if a second set of gates were to be inserted in the salt-water at a short distance, say one foot, in front of the old ones—the water between both sets of gates remaining at the same sea-level as before—many, and perhaps most people, would believe that the pressure of the German Ocean against the new gates would of course relieve, if not entirely remove, the pressure against the old ones—just as a barrier before the entrance of a theatre most certainly relieves those between it and the door from the pressure of the mob without.

This opinion, however, is fallacious ; for, supposing that the new gates were by machinery to be firmly closed, the foot of salt-water included between them and the old

gates would not only continue to press exactly as heavily against the latter as the whole German Ocean had previously done, but by simultaneously inflicting the same amount of pressure against the inside of the new gates as the ocean was inflicting on their outside, the pressure of this imprisoned single foot of water would so accurately counterpoise that of the whole wide, free ocean, that if the machinery which had closed the new gates were suddenly to be removed, they (the new gates) would be found, as it were, vertically to float between the two equal pressures !

But anomalous as this theory may appear, it is beautifully demonstrated by the well-known fact, that if water be poured into a glass syphon, of which one leg is, say an inch in diameter, and the other, say a foot, the smaller quantity will exactly counterbalance the greater, and the water will consequently, in both legs, rise precisely to the same level ; and this would be the case if one leg of the syphon were as large as the German Ocean, and the other as small as the distance between the two sets of lock gates we have just described—indeed it is evident that, if a hole were to be bored through the bottom of the new gates, a syphon would instantly be formed, of which the ocean would be one leg and the foot of included salt-water the other.

Now Bramah, on reflection, clearly perceived that from this simple principle in nature a most important mechanical power might be obtained ; for if, say five ounces of water in a small tube can be made to counterbalance, say a hundred thousand ounces of water in a large one, it is evident that by the mere substitution in the bottom of the larger tube of a flat solid substance instead of the water, a pressure upon the body so inserted of very nearly a hundred thousand ounces would be inflicted by the application of only five ounces !—and—as this pressure would of course be proportionately increased by increasing the height, or in other words the *weight* of water in the smaller tube—Bramah therefore further reasoned that, if, instead of adding to the quantity of water in the smaller tube, the fluid therein were to be ejected downward by a force-pump, the pressure upward in the larger tube would proportionately be most enormously increased ; and *a fortiori*, as, in lieu of the old-fashioned forcing-pump, the power of steam has lately been exerted, our readers will, we believe, at once perceive that, if the instrument which holds the water could but be

made strong enough, the pressure which might be inflicted within it by a few gallons of water might almost be illimitable.

The principle of the hydraulic press having been above faintly explained, the power and dimensions of the extraordinary engine of this nature, which has been constructed by Messrs. Easton and Amos, of Southwark, for raising the Britannia tubes, may be thus briefly described.

The cylinder, or large tube, of the syphon, which is 9 feet 4 inches in length, 4 feet 10 inches in diameter, and which is made of cast iron 11 inches thick, weighs 16 tons. The piston, termed *the Ram*, which, pressed upward by the water, works within it, is 20 inches in diameter. The whole machine complete weighs upward of 40 tons. The force-pump barrel communicates with a slender tube or passage about the size of a lady's smallest finger, which, like the touch-hole of a cannon, is drilled through the metallic side of the cylinder; and thus, although the syphonic principle really exists, nothing appears to the eye but a sturdy cast-iron cylinder of about the length of a 24 lb. cannon, having the thickness of metal of a 13-inch mortar.

From the above trifling data it will be evident that, leaving friction and the weight of the ram out of the question, the lifting power of this machine must exceed the force applied to the force-pump in the same proportion that $1\frac{1}{2}$ inch diameter bears to a diameter of 20 inches—which in figures amounts to about 354 to 1; and as the two 40-horse steam-engines which are to be applied to the touch-hole for compressing the water in the smaller tube would, it has been calculated by Mr. Latimer Clark, be sufficient to force the fluid more than five times as high as the top of Snowdon, or 5000 feet higher than the summit of Mount Blanc, our readers have only to increase the force in this proportion to become sensible of the extraordinary power which the hydraulic press of the Britannia Bridge is capable of exerting for the purpose of raising its tubes. In short, the power is to the weight of the tubes as follows:—

	Tons.
Weight of one of the largest tubes . .	1800
Lifting-power of the hydraulic press .	2622

The mode in which this enormous power is practically exercised is as follows:—

The hydraulic cylinder, standing erect, like a cannon on its breech, on two stout wrought-iron beams bolted to each other, is, together with its steam-boiler, securely

fixed in the upper region of the Britannia Tower, 148 feet above the level of its base, and about 45 feet above that to which the bridge is to be raised.

Around the neck of the iron ram or piston, which protrudes 8 inches above the top of this cylinder, there is affixed a strong horizontal iron beam 6 feet 9 inches in length, resembling the wooden yoke used by milkmaids for carrying their pails, from the extremities of which there hang two enormous iron chains, composed of eight or nine flat links or plates, each 7 inches broad, 1 inch thick, and 6 feet in length, firmly bolted together. These chains (which, in order to lift the tube to its destination, are required to be each 145 feet long, weigh no less than 100 tons—which is more than double the weight of the equestrian statue of the Duke of Wellington, lately erected in Hyde Park—commonly regarded as one of the heaviest lifts ever effected; and certainly, when from the giddy region of the Britannia Tower, in which this hydraulic machinery, like the nest of an eagle, has been deposited, the stranger, after looking down upon the enormous weight of iron not only to be supported, but to be raised, compares the whole mass with the diameter of the little touch-hole immediately before him, through which the lifting-power has to pass—and when he reflects that the whole process can, with the greatest ease, be regulated and controlled by a single man, it is impossible to help feeling deeply grateful to the Divine Power for an invention which, at first sight, has more the appearance of magic than of art.

As soon as all adjustments were prepared, and the boiler was sufficiently heated, the great piston, under the influence of severe pressure upon the water beneath it, began slowly, like a schoolboy's "jack-in-the-box," to emerge from the cylinder, and, apparently regardless of the enormous weight that oppressed his shoulders, he continued steadily to rise, until in about thirty minutes he lifted the tube 6 feet, and, as he could raise it no higher, the huge chains beneath were immediately secured by a powerful vice or "clams" at the foot of the press. By letting off the water, which of course relieved the pressure beneath the piston, it descended, by its own gravity, to the point from which it had started, where the chains being again affixed to its yoke—an operation which requires about half an hour—it again by the vitality of steam, lifted its weight another six feet; and, as the other end of the tube was simultaneously treated in a similar way, the whole was pro-

gressively raised nearly 30 feet, when, by the bursting of the largest of the hydraulic presses—a contingency which, from the faithless crystalline character of *cast* iron, it is utterly impossible for Science to prevent—the ponderous mass suddenly fell through a space of seven inches—an awful phenomenon to witness—until it was stopped by the brickwork

and timber which had cautiously been under-built during its ascent—and from which it has still to be raised to a point a few feet above its final position, where a strong iron beam being placed beneath, it will, we trust, triumphantly be lowered to its final resting-place, to be the aerial highway of the public.

A MOTHER'S LAMENT.

BY WILLIAM JONES.

WHERE have they lain thee, my own dear child,
Where have they made thy bed?
In the cold churchyard, where the weeds grow wild,
Have they placed thy little head?
Where the hemlock waves
On the drowsy graves,
And the night-shade droops o'er the dreamless dead!

Where have they borne thee, my stricken one?
Would that I shared thy rest!
For it sorrows me thou shouldst sleep alone,
Away from thy mother's breast.
With thine eyelids closed,
As they oft reposed
On the bosom the light of thy smiles once blessed!

They tell me, my boy, thou wert taken hence
In mercy, for thou wert weak,
And the world, with its darkling influence,
Would have caused the reed to break!
And thou wouldst have wept
As the blighting crept
To the heart of the flower, with touch so bleak!

And they tell of an angel-child above,
With a bright and glorious brow,
And they say he is spreading his wings of love
O'er the home of his mother now!
And I list profound
For the rustling sound;
But the leaves are stirless upon the bough!

My baby! though thine is a holy lot,
To walk in the glow of heaven,
I mourn for the pleasures that now are not,
That alone with thee were given!
And I raise these eyes
To thine own blue skies,
With a grieving spirit for joys thus riven!

But a whisper of hope has reach'd my ear,
And my heart soars on the strain!
Sweet mother! Jehovah hath heard thy pray'r,
And soon we shall meet again,
In a sinless clime,
Where the flight of time
Shall bring not a tear, or a throb of pain!

From the British Quarterly Review.

RABELAIS—HIS LIFE AND GENIUS.

The Works of Francis Rabelais. Translated from the French by SIR THOMAS URQUHART and MOTTEUX; with Explanatory Notes by DUCHAT, OZELL, and others. A New Edition, revised, and with additional Notes. 2 vols. London: Bohn. 1849.

IN 1530, Luther, now an elderly man, had already accomplished more than half his great work, and the young Frenchman, Calvin, was just beginning his career as a theologian, when an erratic fellow-countryman of the latter, a vagabond monk or priest, that had long been at a loss what to do with himself, came to Montpellier, and was matriculated at the university there as a student of medicine, by the name of Francis Rabelais. He must have seemed somewhat of an old fellow to be commencing a new course of study, for he was then in his forty-eighth year—that is to say, exactly as old as Luther, and about twenty-six years older than Calvin. But it was by no means uncommon at that time to see men that had been bred in the church, cast adrift to seek, late in life, for new ties and occupations. Many were the strange waifs that the Reformation had washed afloat upon society; nor of all these was there one whose severance from the papal wreck should have been less a matter of surprise than that of Rabelais.

Born in 1483, at the small town of Chinon, in Touraine, where his father, who was an innkeeper, owned or rented a farm adjacent to a convent of Benedictine monks, Rabelais had been destined for the church from his boyhood; and after receiving the usual modicum of education, and fulfilling the usual novitiate, he had at last, in his twenty-ninth year (1511), been admitted into priest's orders as a member of a fraternity of Franciscan or Mendicant Gray Friars, established at Fontenay-le-Comte, in Lower Poitou. A position less suitable for a man of his tastes and temperament could not possibly have been found. To wear a coarse gray cloak and hood, to go barefooted, and live on fish and other meagre diet, to cherish an humble and abject demeanor, and to abstain from all

unnecessary learning—such were the rules imposed upon the Franciscan friars by the will of their founder; and whatever relaxations in these rules time may have introduced, enough of their spirit remained to preserve for the order its traditional character as the most ascetic and beggarly in the church. In any convent whatever, Rabelais would have been an unruly subject; but in a convent of Franciscans he was discord incarnate. His conventual offences were numerous. In the first place, it appears, he was by far too studious in his habits for a Franciscan; he, and another brother, named Peter Amy, would persist, among other things, in learning Greek together, and in corresponding with eminent Greek scholars, such as the celebrated Budæus—of all which it was clear to the friars that no good could come. Further, there was good reason, after the promulgation of the Lutheran heresy, to believe that brother Rabelais was by no means an orthodox catholic in his views of that movement, if, indeed, he was not in secret a disciple of Luther. But, worse than all, as we guess, he was of a disposition altogether intractable and uncomfortable, “un prêtre,” as his friend Budæus hinted, “d’un caractère bien difficile et morose;” an earlier Swift, in short, for bitterness and satiric humor. It is nowise necessary to add to these traits, as some do, the imputation of personal lewdness, in order to complete our picture of a man that would be likely to keep a community of Gray Friars in a state of hot water. Suffice it that, during thirteen years, he was, somehow or other, the most unpopular man in the monastery. At last, this dislike of his brother monks to him showed itself in a somewhat serious fashion. In 1524, in consequence of some formidable breach of rule—a profane practical jest, tradition says, that

brought the whole convent into public scandal—brother Rabelais was condemned by the conventual chapter to the terrible punishment called *in pace*—that is, to perpetual imprisonment, on bread and water, in a subterranean cell. It was not so easy, however, thus to dispose of a man whose abilities and learning, in spite of any faults he may have had as regarded faith or morals, had already procured him some local reputation—a man that knew Latin, Greek, and Hebrew, and had Budæus and bishops for his friends. The whole neighborhood of Fontenay-le-Comte rose in his favor; and by the exertions of certain influential individuals, among whom was André Tiraqueau, lieutenant-general of the district, and Geoffroi d'Estissac, bishop of the see of Maillezais in the same province of Poitou, not only was Rabelais released from his durance, but a papal indulgence was procured enabling him to quit his monastery altogether, and, in spite of his former vows as a Franciscan, enter the aforesaid bishop's own chapter, the Abbey of Maillezais, of the wealthy and scholarly order of St. Benedict. Even this change of situation, however, did not satisfy him; and it was not long before, assuming the habit of a secular priest, and so renouncing all monastic restraint, he decamped from the abbey without leave, and became once more a denizen of the common world. The Bishop of Maillezais, one of those easy semi-Lutheran prelates that then abounded, winked at this act of his *protégé*; and for several years the ex-monk lived and went about with him as his friend and secretary. It was at this time and in this situation that he became connected with Clement Marot, Etienne Dolet, Antoine Heroet, Hugues Salel, Bonaventure des Periers, and other distinguished literary sceptics of the day, in all of whom, sympathy with at least the negative side of the Lutheran movement was tolerably apparent; as well as with the four celebrated brothers Du Bellay, who, though all high civic or ecclesiastical functionaries, were yet all more or less Lutheran in their sentiments. There is even ground for supposing, that about the same period, he met and formed some slight acquaintance with Calvin, then a mere youth, but already known, like himself, as a profound Greek scholar. In 1530, however, the mixed party of wits, scholars, and public men, that seemed thus to be forming itself as a Lutheran, or semi-Lutheran, element in French society, found cause for prudence, if not for alarm; persecution having assumed so decided a form in the counsels of Francis

I., as to sanction the burning of suspected heretics in the streets of Paris. Accordingly, there was a temporary cessation of all overt demonstration of opinion, or of Lutheran collusion, if any such existed, on the part of our ex-monk and his friends. The Bishop of Maillezais and the Du Bellays jogged on as politic men in office, that could keep their thoughts to themselves; Clement Marot, a prosecution for eating bacon in Lent hanging over him, continued to write popular verses; the noble Calvin calmly pursued his peculiar way as a laborious student, whom a high destiny awaited; and Rabelais, a runaway monk, with forty-eight years of his life gone, and the world yet before him, resolved, as we have seen, to study medicine.

The memory of Rabelais is sacred in Montpellier to this day. For many years after his death, the red gown which he had worn when a student, was carefully preserved; and, by way of ceremony, every medical pupil at the university was invested with it on passing his fifth examination. The ceremony is still kept up; but the real gown has twice been replaced by a substitute. According to the tradition, this custom is commemorative not merely of the fact that Rabelais studied at the university, but also of a signal service that he rendered it, in procuring, under very difficult circumstances, and by a very jocose stratagem, the restoration of certain privileges that had been withdrawn from it by Chancellor Duprat. All that is certain, however, is that Rabelais remained at the university about two years; that he obtained a bachelor's degree in medicine; that he led what might be called a merry life for a man verging on fifty—acting plays and farces with his fellow-students; and that, on leaving Montpellier for Lyons, in 1532, he carried with him a real knowledge of what was then taught as physic, as well as a full title to practice it.

Settled at Lyons, whither he was probably led by the instances of his friend Dolet, his first occupation was to edit two medical works—the one consisting of Letters of an Italian physician, named Manardi, and the other of revised Latin versions of certain treatises of Hippocrates and Galen. These works, however, did not sell. Two other productions, of an erudite literary character, were equally unsuccessful; and, as the common story goes, it was to make up to his publisher, Gryphius, the losses he had sustained by undertaking them, that Rabelais resolved to attempt something in a more popular vein. The result was the publication in

the same year of a mock tale of chivalry entitled, *Chronique Gargantuine*, or more fully, "*The great and inestimable Chronicles of the great and enormous Giant Gargantua, containing his genealogy, the greatness and force of his body, as well as the marvelous feats of arms that he did for King Artus; as see hereafter, newly printed.*" Of this slipshod performance, doubtless written *currente calamo*, and, as the author says, "during the time allotted to eating and drinking," there were sold, he says, "more copies in two months than were sold of the Bible in nine years." No time was, therefore, lost in bringing out a second edition of the same, greatly altered and enlarged; and in following it up in 1533 with a sequel, or continuation, under the name, "*Pantagruel; the horrible and astounding feats and prowess of the very renowned Pantagruel, King of the Dipsodes, son of the great giant Gargantua; newly composed by Alcofribas Nasier.*" This production, which forms the second book of the works of Rabelais, as they now stand, is in reality the parent of the other four books, nothing being contained in them that does not grow out of it necessarily or otherwise. The author, in passing from the *Chronique*, which he had thrown off so hastily, to this second work, or sequel, had evidently enlarged the design of his fiction, and determined to give it a new character. Accordingly, while he retains in the *Pantagruel* a great deal of the absurd machinery of the *Chronique*, making his hero a giant, and everything about him gigantesque, it is clear that he no longer aims at a mere boisterous parody of the legends of giants and enchantments, that then formed the staple popular literature of Europe. Merlin, King Arthur, Gog, Magog, and other similar personages, that had figured in the *Chronique*, are disbanded; and Pantagruel, the gigantic son of the giant Gargantua, moves on through a very different world from that to which his father had belonged. Paris, and the whole contemporary French world, that Rabelais himself knew, rise distinctly before one; and the author, descending like a licensed jester among real things and events, riots in universal allusion and invective. The transition is somewhat, though not entirely, as if from penning *The Adventures of Jack the Giant Killer*, one had passed to the composition of the *Voyage to Brobdignag*. Fancy does not yet succumb, indeed, so as to play only a second part; but purpose and savage intent are everywhere visible.

Rabelais had thus discovered his true vein,

found out the natural bent of his genius, ascertained that he was a born satirist, and all-irreverent jester. A somewhat odd discovery to be made so late, and after such varied premises! To have become a priest; to have spent thirteen years in a convent of beggarly ignoramuses; to have learnt Latin, Greek, and Hebrew, and otherwise pursued knowledge under difficulties; to have been once all but starved to death in a mouldy cellar; to have changed one monkish order for another; to have been secretary to a bishop; to have kept company with distinguished scholars and wits; to have seen and talked with young Calvin; to have studied medicine, and edited heavy medical books; and then, at last, in his fiftieth year, to find out, by mere chance, that, after all, he was nothing else than what he had been at first—a village innkeeper's son, making fun every morning with the hostlers at his father's door; listening every night to snatches of song, broad jests, and roars of tipsy laughter from the tap-room; and *au fait* (the kitchen being his own) in all the mysteries of cooked and preserved meats! Such, however, was the fact of the case. What Rabelais was at the last, he was in embryo while a boy about his father's inn at Chinon. Take, for example, the opening passage of the Prologue to his Fourth Book:—

"Good people, God save and keep you! Where are you? I can't see you. Wait till I put on my spectacles. Ha, ha!—soft and fair goes Lent; I see you. Well, you have had a good vintage, they tell me. I am not a bit vexed at it. You have found an infallible cure against all weather changes. 'Tis bravely done. You, your wives, children, friends, and families, are in as good health as hearts could wish. It is well, it is good; it is as I would have it. God be praised for it; and, if it be his sacred will, long may you be kept so. For my own part, thank His kindness, I am there and thereabouts; and by the means of a little Pantagruelism (which is, as you know, a certain jollity of spirit pickled in the scorn of fortune), you see me now hale and cheery, as sound as a bell, and ready to drink, if you will."

What have we here but the salutation of a country innkeeper to his customers on a market-day? We seem to see old Thomas Rabelais, a ruddy, jovial soul, with plenty to say, and genius in the very wink of his eye, standing under his own sign of the Lamprey, and welcoming his guests in his bantering way, his first-born chewing a straw, and sympathetically looking on. "And so you mean to make that boy of yours a priest, Master Rabelais?"

we may farther fancy some crony of his saying to him: "Take my word for it, he is fitter to ride horses, and fire off damp gunpowder." And Gaffer Jacques would have been right. After forty weary years, the boy that his father, by the advice of some neighboring Benedictine, had destined to the priesthood, had but come round again to his pristine nature; not, however, without difference or advantage, resulting from so long a circuit. Setting aside the mere fact of acquisitions gained, whereby what in Thomas Rabelais had been but village gossip, became in his son matter and faculty to make a nation laugh, had not that "certain jollity of spirit," which Rabelais the younger had doubtless inherited from his father, to be previously "pickled," as he says himself, "in the scorn of fortune," ere it could be elaborated into perfect Pantagruelism. We do not question it. Jovial and satiric from the first, his joviality had to be tempered and hardened, and his satiric humor had to accumulate for itself store of appropriate material, ere the result could be anything durable or considerable. To this, therefore, the vicissitudes of his life—his apprenticeship as a Franciscan, his contact with learned heretics, his studentship at Montpellier—had all tended; to the final evolution, namely, of mere hostelry wit and ribaldry, in a form so colossal, and bearing on topics so general and vital, that a whole age should be tickled and relaxed by it. Humor, it is true, is, in our part of the world at least, the most frequent and characteristic form of illiterate genius; the foremost untaught man in any English or Scotch village, for example, being always some humorous grocer, saddler or tavern-keeper, as the case may be; nor again, so far as we see, has culture much absolute power over this faculty—not essentially augmenting it where it exists by nature, but rather suppressing and reducing it by stirring up other and competent forms of thought. Nevertheless, where humor is really regnant, culture is but an extension of its domain; and, as the noblest man on earth is the most spiritual and melancholy, so the most resistless is the cultured humorist. Untaught, and left rough, Rabelais might have kept his father's inn, and not disgraced his memory; bred an ecclesiastic and a scholar, he was able to bring the wit that would have convulsed a bar-parlor into contact as noisy and effective with French and European interests. Yet one would think he might have discovered his function sooner. The interval between his boyhood

and his publication of *Pantagruel* in his fiftieth year, had doubtless been by no means a mere continuity of serious study. To say nothing of unseemly bursts of laughter, with which even a Franciscan convent must have rung whilst a Rabelais was within its walls, could humor like his have passed the ordeal of a bishop's table, with the Marots and Heroets of the day among the guests, and not betrayed its infinity by flashes? Not the consciousness of being a humorist, then, was wanting to Rabelais, but the idea of bringing forth his humor in vernacular printed sheets, instead of lavishing it in mere talk with learned acquaintances. And this, we have seen, came almost by chance. His medical books will not sell; forthwith he protests, in a kind of jesting rage, that the public *shall* buy something of his; and to redeem this pledge, he sits down, and scribbles off the *Chronique Gargantuine*—exactly such a farrago of fun and rubbish as one of those coarsely printed curiosities that, some twenty or thirty years ago, packmen used to sell at fairs to country people. He has hit the mark; the book is bought up; a second edition is issued; and the author, taking the matter now more seriously, prepares, in *Pantagruel*, something that, meeting the ascertained popular demand for fun, shall do his own genius more justice. Thus the die is cast—Medicine, Erudition, and the Latin language are thrown aside; and Rabelais, with a smile at his own complaisance, bows to the popular decision, mounts the vacant stage, harangues the grinning crowd in their broad vernacular, and deliberately assumes the proffered cap and bells. More, however, was decided by that first French publication of Rabelais than his own name and fate in the world, much as these were to him. That publication was the parent and beginning of a new species of European literature—a species of literature that was to rank among its votaries such future men as Swift, Diderot, and Sterne.

If Rabelais' recognition of his true function was late and sudden, it was firm and irrevocable. It is not given, indeed, to man, in this world, to be once a buffoon, and afterward anything else. Gurth the swineheard may leap from the earth a free man, and herd swine no more; but Wamba, the son of Witless, is doomed to wear his collar and break jests for ever. But in the case of Rabelais there was probably no wish, as certainly there was little worldly reason, to undo the choice so made of a fool's vocation. Having accepted the profession offered him,

he must at once have felt himself unique in it, enfeoffed against all rivals. His whole soul and intellect, every faculty he had and every acquisition he had made, had space and exercise in this new part that had fallen to him. Had the whole state of the world been purposely considered, on the one hand, and the utmost capacity and possible maximum of his own activity estimated on the other, the adaptation and conjunction of the two could not have been more neat or thorough. So perfect and final, in fact, had been his recognition of his function, when at last it was revealed to him, that he had already almost consciously invented a formula and nickname to express and declare it. He was a *Pantagruelist*, he said; *Pantagruelism*, i. e., as defined by himself, "jollity of spirit, pickled in the scorn of fortune,"—this, and this alone, was what he could preach. He had been fifty years in making the discovery, and he had made it suddenly at last; but his intuition was now clear and fixed, and, let him live fifty years more, the best of his future labors would be but efforts to expound and disseminate Pantagruelism.

Of this he soon gave a distinct proof. "*Pantagruel*" had scarcely been written, when the author, reveling, as it were, in his newly-discovered vein, presented the public with a short burlesque on astrological predictions, written in the same style, and entitled "*Pantagruelian Prognostication, certain, true, and infallible, for the coming year and for ever: by Master Alcofribas, Architrictin to the aforesaid Pantagruel.*" In the same year, it appears, he also published a real almanac, calculated for the meridian of Lyons, and bearing on the title-page his own name, with the designation of "Doctor in Medicine and Professor in Astrology," the latter half of which is doubtless a jest. This kind of work seems to have been to his taste; for in various subsequent years he favored the Lyonnese with similar compilations.

Three editions of *Pantagruel*, and numberless copies of the *Prognostication*, had been sold, and their fame had already spread over France, when (January, 1534) Jean du Bellay, Bishop of Paris, passing through Lyons on his way to Rome, on a commission of importance connected with the quarrel between the Pope and Henry VIII. of England, persuaded the now popular humorist to accompany him. After an absence of six months, during which he learnt Arabic made collections for a work on Italian antiquities, and perpetrated, if all tales be true,

certain most Rabelæian *facetiæ* at the papal court, he returned to Lyons, the *sedes* as he called it, *suorum studiorum*. Here (passing over the story of the brick-dust packets, labeled "Poison for the King," &c., for which, and fifty others such—the best being that of his boiling the keys to make "an aperient decoction"—we refer the credulous reader to any collection of Rabelæiana) we find him almost immediately engaged in seeing through the press a Latin work on Roman topography, by an Italian named Marliani, in whose favor he is said to have abandoned his own design of writing a similar work. Toward the close of the same year, he received the appointment of physician to the great hospital at Lyons; in which capacity he delivered, during the winter, public lectures on anatomy, accompanied by dissections. Rabelais, it has been well remarked, appears to have been an enthusiast in his profession as a physician; and in no kind of technicality does he seem to revel so much, throughout his work, as in anatomical description.

Meanwhile, Pantagruelism was not lost sight of, because of assiduity with the scalpel. Before the end of 1534, a new edition of *Pantagruel* was issued; and early in 1535, the original *Chronique Gargantuine* was definitively superseded by the production that now forms the first book of the general work. In this production, which saw the light under the title of "*The Inestimable Life of the Great Gargantua, father of Pantagruel, heretofore composed by the Abstractor of Quintessence; a Book full of Pantagruelism,*" the purpose of the author evidently is, to convert the *Chronique* into a natural and appropriate prelude to the *Pantagruel*. Hence, in form and matter it is entirely altered and recast. In the tone and spirit of the book there is also a wonderful change. The author, we are to remember, had in the interval visited Rome, and, like Luther, though with very different eyes, seen the papal corruption at its source; he had been the intimate associate, at the same time, of a prelate who, though the bishop of Paris, and now also a cardinal, was in reality a philosophic heretic, with schemes of reform in his head; and, finally, already (for Calvin, now in his twenty-seventh year, had just published, or was about to publish, his "Institutes") it was clear to all that the latent Lutheranism of the kingdom was assuming, in ardent French hands, a definite national shape. It was time, therefore, for Rabelais to speak out; to let his Panta-

gruelism flood itself more freely in the specific direction that the national opinion was taking. Accordingly, in the *Gargantua*, new topics are wound into the Pantagruelian discussion. In *Pantagruel*, there had been abundant satire against the Sorbonne and the lawyers, nor had the monks been spared; but in *Gargantua* the monks have it more specially. The whole book concludes, in fact, with an exposition (under the transparent guise of a description of a certain great abbey, called the abbey of the Thelemites) of a kind of ideal socialism, or scheme of ecclesiastical liberty; in which, though it is not propounded *bona fide*, but only as a wild poetic sketch, one nevertheless sees an expression of real practical intention. Pantagruelism, indeed, was the true spirit then abroad in France—a certain jolly, daring, riotous negation of monks and monkeries, mingled with no better positive element than a kind of epicurean vigor and geniality. Far less widely spread, because far more rigorous, devout, and deep, was the spirit that issued in Calvinism. As yet, indeed, Pantagruelism and Calvinism existed as if they were one and commingled; but it was impossible that they could advance far without disentangling themselves. Calvin and Rabelais both dealt hard blows at the papal system, and for both, could they have been clutched at once by the bigots, the fire was equally ready—nay, perhaps for the jester more ready than for the reasoner, for jests enrage more than arguments; but buffoons ever have the populace they make laugh for a body-guard, while thinkers walk but in groups; nor has it yet been seen, so far as we are aware, that Pantagruelists are the men to go to the stake for their opinions. Rabelais burnt for having written *Gargantua*, would have been a joke in itself. The hangman could not have done his duty for laughing; and the pinioned culprit would have winked to the crowd.

When, therefore, in the year succeeding the publication of *Gargantua*, Francis I., roused by the appearance of some heretical placards in the streets of Paris, gave the Sorbonne full license to persecute, the difference that, as foolish M. Jacob says, did actually exist between the high "Thelemite or Pantagruelian philosophy" of Rabelais, and "the sordid, unmannerly, and inflexible reform" of Calvin, was not long in making itself clear. How, for example, in this emergency, do the two chiefs respectively behave in whom the dispositions of the parties may be considered as having been represented? The puritan

Calvin, to escape the storm, goes to Geneva, and becomes a pastor and professor of the Protestant church there. The Pantagruelist Rabelais, on the other hand, his friends Marot and Dolet being already partly within the grasp of the law, thinks it best to go to Rome, where, curiously enough, such men as he were then safest; and there, do what? Submit himself to the pope; get pardoned for his former apostasy in leaving his monastery; have himself reinstated in all his former privileges as a Benedictine friar, with liberty reserved to him to practice as a physician at the same time; and so be able to return to France and defy everybody. The Latin letter of Rabelais, on this occasion, to Paul III., and that pope's gracious answer, bearing date the 17th January, 1536-7, are still extant. Nor, in taking this step, was Rabelais ostensibly untrue to any set of convictions that he had undertaken to support. It was a mere matter of convenience, he doubtless persuaded himself—not in the least a matter of principle. Just as people now-a-days get called to the bar for certain collateral advantages, and without intending to practice, so Rabelais, who would have laughed at the idea of pretending in earnest to be a priest, re-entered the church. Yet natures like Calvin's do not act so.

After living some months in Rome, attached to the household of Cardinal du Bellay, and corresponding with his old friend, the Bishop of Maillezais, Rabelais returned to France in the capacity of physician to the cardinal, who ultimately, although not without some difficulty, and a fresh application to the pope, got him settled as one of the canons of Saint-Maur des Fosses—a collegiate church attached to the cardinal's own bishopric of Paris. This arrangement does not appear to have been one of the humorist's own making; his purpose seems rather to have been to depend on that saving clause in the pope's letter by which he was authorized to continue the practice of medicine; and, accordingly, he had, on his return from Rome, paid a visit to his old residence, Montpellier—there to exchange his bachelor's for a full doctor's degree. The arrangement, however, once made, was found convenient enough, as it enabled Rabelais to lead a life of tolerable ease and leisure. Residing during the winter at Saint-Maur des Fosses, he made trips in summer to various parts of France—to Montpellier, to Lyons, and, above all, to his native village, Chinon, where his relatives were proud to have him among them, and where he had his father's old inn,

with the bowling-green behind it, to live in when he liked. The Du Bellays were now his chief friends. At Paris, the Cardinal's house was his own when he chose; in Normandy, he visited Martin du Bellay, the lieutenant-general of the province; the youngest of the brothers, René du Bellay, the Bishop of Mans, was glad at any time to entertain him; and of the attachment that subsisted between Rabelais and Guillaume du Bellay, Lord of Langey, Rabelais himself, more than once, makes affectionate mention. In 1542, he was present at the death of this highly popular chieftain, who bequeathed to him, by his will, a considerable annual legacy. To René du Bellay he was also indebted for an accession of income in the form of a curacy, which he was allowed to manage by a substitute.

It was not till the year 1546, or ten years after the publication of *Gargantua*, that the second part of "*The Heroic Deeds and Sayings of the Noble Pantagruel*" made its appearance. There were circumstances to account for this delay. The storm of Persecution had by no means yet blown over. Personal friends of Rabelais had fallen victims. Etienne Dolet had been burnt as a heretic; Bonaventure des Periers had escaped a like fate by suicide; Marot was in exile. It was for the Canon of Saint-Maur des Fosses, now in his sixty-third year, to be as cautious as possible. Accordingly, when the new book did appear, it was under the protection of a special privilege or guarantee of copyright from the king; a favor obtained for Rabelais by his influential friends, on the ground that his previous books had been tampered with by the piratical printers. The pseudonym of *Alcofribas Nasier* was now discarded, and the real name of the author advertised.

The second part of *Pantagruel* was quite as pungent and audacious as either of its predecessors; and the doctors of the Sorbonne were soon prepared to sustain a charge of atheism and heresy against it. A very simple accident, however, saved the author. The king, interested in the book by the extraordinary excitement it had created, and pestered with petitions for leave to put it on trial, notwithstanding the royal privilege by which it was protected, resolved to read it himself. He did read it; and after that, Rabelais was out of all danger. For four or five years, however, (during which time Francis I. died, and was succeeded by his son, Henry II.,) he had to bear attacks of all kinds through the press, directed partly against his real writings, and partly against

certain profligate tracts that were published in his name. Nor were the papistical doctors his only critics and antagonists. In the great controversy between Ramus and Galland regarding the merits of Aristotle, the name of Rabelais was frequently and studiously bandied to and fro. Calvin, too, now "the Pope of Geneva," as the Catholics delighted to call him, and, since Luther's death, the chief of European protestantism, had thought it his duty to announce his opinion of the character and worth of so conspicuous a contemporary. "Quotquot videmus," he says in his treatise *De Scandalis*, published in 1550, "hodie Lucianicos homines, qui totam Christi religionem subsannant! Alii (ut Rabelæsus, Deperus, et Goveanus), gustato Evangelio, eâdem cæcitate sunt percussi. Cur istud, nisi quia illud vitæ æternæ pignus sacrilegâ ludendi aut ridendi audaciâ antè profanârunt?" In Calvin's estimation, therefore, Rabelais was a man who had once tasted the gospel, but who, in consequence of his inveterate habit of jesting on sacred things, had been struck with judicial blindness, and hardened in his old age into a hopeless Lucianist. Here, however, the reference is clearly to the personal spiritual condition of Rabelais; Calvin's estimate of the secular force of his writings was probably more favorable. Many Calvinists, indeed, considered Rabelais one of themselves. Beza eulogized him. The opinion of Stephanus is well known. "Though Rabelais seems," said he, "to be one of us, he often throws stones into our garden." But the truth is exactly as Calvin perceived it. Rabelais, from whatever point he may have started, had ended at last as a confirmed Lucianist—sceptical, epicurean, creedless; habitually a scoffer and preacher of sensualism, yet liable, it is clear, to wild, speculative longings of his own, and with a soul capable by fits of grand poetic flashes. His young disciples, the Pantagruelists of the court, ("*chacun s'est voulu mêler de pantagrueliser*," says a contemporary gossip,) formulized his doctrine somewhat too easily, and yet not altogether falsely, when they interpreted it to mean—Laugh and get drunk.

The third part of "*The Heroic Deeds and Sayings of the noble Pantagruel*," constituting the fourth book of the general work, was published in 1552. Rabelais had, in the mean time, paid a third visit, of some length, to Rome, in the train of Cardinal du Bellay; and had amused himself while there by writing letters, issuing some fugitive publications, including two almanacs, and cast-

ing horoscopes for the Roman ladies. On his return to France, where the Cardinal de Lorraine now held the same position of influence under Henry II. that the Cardinal du Bellay had held under Francis I., he had been presented to the curacy of Meudon, near Paris, by an arrangement between the two cardinals. A third cardinal, who was known at this time as an open patron of Rabelais, was the celebrated Odet de Châtillon, then at the height of his power, notwithstanding the strong suspicions that were already entertained of his orthodoxy—suspicions that were soon afterward justified by his declaration that he was a reformer, and by the scandal of his public marriage in his cardinal's robe. It was to him that Rabelais dedicated his new book; and it was by his influence that a prosecution, begun against it, was quashed, and an order of the Parliament of Paris, forbidding its sale, canceled. The circulation of such a book at such a time was indeed a wonder; for, surpassing all its predecessors in audacity, it is throughout, with but the thinnest possible veil of allegory thrown over it, a merciless onslaught on the papal system, in mass and in detail. Nor do those that had been recently attacking himself escape. The Ramists and Gallandists are made game of in the preface; and Calvin is paid off for his allusion in the "De Scandalis" by a studied passage in one of the chapters, where "demoniacal Calvins, impostors of Geneva," are classed along with "superstitious pope-mongers," "gluttonous monks," &c., as all alike the offspring of Antiphysis or Anti-Nature.

The last two years of the life of Rabelais were spent chiefly at his parish-cure of Meudon. "There," says M. Jacob, "he acquitted himself as well as possible of the duties of his ministry. He admitted no females into his parsonage, careful lest, old as he was, their presence should occasion scandal; but he received continual visits from *savans* and distinguished persons from Paris. He occupied himself with the decoration of his church, and with teaching the children of the choir to sing, and the poor of the parish to read. People came from far and near to see him in his garb of *curé*, and to hear him preach or perform mass. Meudon became a favorite resort of the Parisians in their country walks; so that, even a century after the death of Rabelais, it was a proverbial saying in Paris, 'Let us go to Meudon; there we shall see the castle, the terrace, the grottoes, and M. le Curé, the most pleasant-looking old gentleman in the world, and the best-

tempered—one that is always glad to see his friends, and a most delightful talker.'" All this we may take on the word of M. Jacob. Swift, Sterne, and (as good a Pantagruelist as any of them) Skinner of Aberdeenshire, the author of "*Tullochgorum*," must have been just such priests. Nor are the following details less pleasant in their way. "Free from any of the infirmities of age, with the exception of a big belly, the result of good living, he preserved to the last his love of study. He had a library consisting of rare and curious books, for he used to buy all bad books, saying they were sure not to be reprinted; he had also a collection of manuscripts. He would cover the margins of the books he read with critical or explanatory notes, abandoning himself in these notes to the caprices of his imagination, and to his philosophic doubts." By no means an ungenial picture of an easy old priest in his parsonage! But what are we to make of the stories of his manner of death? He died, it appears, not at Meudon, but at Paris, in a house in the Rue des Jardins, on the 9th of April, 1553, having just completed his seventieth year. "When he had received extreme unction," says M. Jacob, "he observed aloud, that they had greased his boots for the great journey." To this story, which is quoted by Bacon, are usually added two others—that of his profane pun, "*Beati sunt qui in Domino moriuntur*;" and that of his last bequest, "I have nothing; I owe much; I leave the rest to the poor." Neither story seems in the least degree credible. More dismal in itself, and more difficult to be set aside, is the story of his answer to a page sent by the Cardinal du Bellay or the Cardinal de Châtillon to inquire how he was. "Tell Monseigneur," he said, "in what brave spirits you find me. I go to seek a great *Perhaps*; he is in the cock-loft, tell him to keep there; as for you, you will never be anything else than a fool." Just before dying, it is added, he gathered his strength for one last burst of laughter, saying, when he had ceased, "Draw the curtain, the farce is over." Nay, to crown all, (and if, with M. Jacob, we accept the other stories, it will be but charitable to accept the solution,) "The priest that confessed him, and performed the last offices, spread the report everywhere that he died drunk." Reading this, it is best to be dumb!

Such, as we are able now to represent it, was the history of a man, whom, to omit meaner testimonies, Coleridge, whose admiration of him was unbounded, used to rank

with Shakespeare, Dante, and Cervantes, as one of the great creative minds of the world. The work on which his title to this eminence rests was composed by him during the last twenty years of his age. Had Rabelais died before the age of fifty, his name would have been quite unknown.

Of the work itself, considered as a narrative, it is easy to give an outline. In the First Book, or *Gargantua*, we are told how the great giant, Gargantua, the son of King Grangousier and his wife Gargamelle, is born into the world; how he is educated at home; how he is sent to Paris to be further instructed; how there he astonishes the citizens by various exploits, the chief of which is the carrying away of the great bells of Notre Dame round his mare's neck; how he is called back from his studies to help his father against Picrochole, King of Lerne, who has invaded his paternal territories; how, assisted by his friends, and especially by a jolly and valiant monk, called Friar John des Entomares, or Friar John of the Chopping-knives, he routs the enemy; and how peace is restored, and Friar John rewarded. In the next Book, or the First Part of *Pantagruel*, we have the early life and actions of Prince Pantagruel, the son of the foregoing Gargantua, who has now succeeded his father, Grangousier, on the throne; how this prince, who was a giant like his father, was sent, like him, to Paris to be educated; how, in a curious way, he there fell in with a strange being, called Panurge, whom he immediately engaged as his companion, and whom "he loved all his life-time;" how, while he and Panurge are having odd adventures in Paris, he receives intelligence of the invasion of his father's kingdom by the Dipsodes and the giants; and how, thereupon, he returns, defeats the invaders, and introduces Panurge to his father, and to all his friends, including, of course, Friar John of the Chopping-knives. In the Third Book, or Second Part of *Pantagruel*, we learn how Pantagruel colonizes Dipsody; how he makes Panurge laird of Salmagundin in that country, with a noble income; how, nevertheless, Panurge gets into debt, and becoming half crazy, resolves to marry, if only he can first be assured that his matrimonial fortune will be a happy one; how, in order to obtain this assurance, he consults one person after another—Pantagruel, Friar John, a lawyer, a theologian, a physician, a witch, a fool, a philosopher, but all without satisfaction; and how, at last, to put all beyond a doubt, it is arranged by Gargantua that Pantagruel and

his friend Panurge, accompanied by Friar John, and many other persons, shall proceed in a ship to the other end of the world, there to consult the famous oracle of Bacbuc, or the Holy Bottle. Finally, in Books Fourth and Fifth, (Book Fifth was published from the MS., after the death of Rabelais,) we have a narrative of the voyage—how the voyagers conversed and amused themselves while on board; how they encountered a great storm; how they touched at one place after another—the land of the Chitterlings, or Sausages; the land of the Papimanes, or Pope-maniacs; the land of Gaster, or Lord Belly; the Ringing Island; the Queendom of Quintessence, &c. &c.—what wonders they saw in each; and how at last they arrived safely at their destination, and consulted the Bottle. And here the tale abruptly closes.

To give one that does not know the work an idea of the extraordinary mass of miscellaneous matter that is piled up in it on this almost absurd basis, is impossible. Dissertation, dialogue, anecdote, quaint learning, grotesque conception, trenchant sarcasm, the oddest and sharpest wit, the most riotous laughter, the profoundest allegory, the most abject driveling, the filthiest word-garbage, the most astounding profanity—are here mingled, and jumbled into union. The book is literally unique. There does not exist in the whole literature of the world any other that can be said really to resemble it. What Jean Paul is in German, Rabelais is in French; and yet the two men are wholly unlike.

Dismissing, as irrelevant and absurd, the controversy carried on with such pitiful results by Motteux and others, as to the real *dramatis personæ* (Louis XII., Francis I., Henry II., Cardinal Châtillon, the Cardinal d'Amboise, &c. &c.) supposed to be represented under the names, Grangousier, Gargantua, Pantagruel, Friar John, Panurge, &c. &c., and believing nothing more than that Rabelais designed his work to be, as M. Jacob well names it, "a critique of the world," clutching here and there, possibly, at a real bit of fact when it suited his purpose, a judicious critic, we imagine, would find it convenient to discuss specially these four things in respect to Rabelais—his obscenity, his humor, his poetic or dramatic power, and his opinions or philosophy. We have space but for a word on each.

The obscenity of Rabelais, it has been remarked, is something stupendous. "He who has his mind stored," says a critic, "with the objectionable passages of Swift, Sterne, Boccaccio, and the Elizabethan dramatists,

may fancy that he knows the limit to which grossness in writing may extend. But alas! if he has not read Rabelais, his knowledge in this respect is as nothing; he cannot conceive the full strong torrent of undisguised and elaborated filth which rolls through a work as bulky as *Don Quixote*."

All that mass of objects and facts, in short, that society has agreed to keep nailed down under hatches, as suppressed and unnameable between cleanly men, is here broken in upon, shoveled out, and exposed to the sun. Here, of course, there start up the two apologetic commonplaces—the custom of the age, and the difference between mere coarseness and studiously-seductive description. Both apologies are worth something; but neither is sufficient. That gentlemen and ladies of the age of Francis I. read Rabelais and found him "delectable;" that the Cardinal du Bellay called his book, *par excellence*, "The Book," and caused a gentleman that had not read it to retire from his table,—is all very true; but it is just as true, that in no age whatever could "The Book" have been written except by a man æsthetically depraved. Again; that the style is not purposely seductive—that it is not pictures of intellectual Aspasias, or of Laises rosy from the bath, that Rabelais delights to offer, but pictures of dirty Molls and hag-like Sycoraxes—is just as true; but we question if, all things considered, this mends the matter. In short, let it be distinctly understood by all heads of households that Rabelais is not a family author. Nor is our English translation a whit purer, in this respect, than the original. Begun by Sir Thomas Urquhart, a wit of the reign of Charles II., who, in the execution of his difficult task, ransacked the entire vocabulary of the English tongue, besides dipping occasionally into his native Scotch, for expressions tantamount to those of the original; and continued by Mr. Peter Motteux, a naturalized French Londoner of the beginning of last century, who, after a desultory, semi-literary life, was found dead, under suspicious circumstances, in a house of bad fame in St. Clement Danes, on the morning of his fifty-eighth birthday,—this translation is a perfect marvel for exuberance of foul speech. The most terrible sight on earth, as the critic quoted above has very truly said, would be that of a young lady in white muslin opening a volume of Urquhart's "Rabelais." We are not sure, indeed, if Mr. Bohn has done right in including this work in his valuable series of reprints, and so

making it more accessible than it was. It is but fair, however, after all this, to quote, in regard to this very point, the deliberate judgment of so high an authority as Coleridge. "I could write," says Coleridge, "a treatise in praise of the moral elevation of Rabelais' work, which would make the church stare and the conventicle groan, and yet would be truth and nothing but truth." And again (*Table Talk*, p. 93), "the morality of the work is of the most refined and exalted kind; as for the manners, to be sure, I cannot say as much." And really, whatever may be the impression made by parts, it is with a feeling toward the author very different from that of disgust, that one concludes a continuous perusal of the *Panagruel*.

The humor of Rabelais is a subject for a dissertation rather than a paragraph; and the critic in such a case should prepare his ground by means of whole pages of examples. All that we can do here is to quote a specimen or two, to exhibit a frequent verbal form of the Rabelæian jest.

Panurge's Praise of Indebtedness.—"God forbid that I should ever be out of debt. He that leaves not some leaven overnight will hardly have paste the next morning. Be still indebted to somebody or other, that there may always be somebody to pray for you. * * Creditors, I will maintain it to the very fire, are fair and goodly creatures; and whoso lendeth nothing is a foul and ugly creature—an imp of the rogue below. O what a rare and ancient thing are debts! * * I give myself to Saint Babolin, if, all my life, I have not esteemed debts to be, as it were, a connection and colligation of the heavens and the earth—the sole cement of the human lineage (yea, without them all humanity would perish); perchance that they are even that great soul of the universe which, according to the academicians, vivifies all things. To perceive this, only represent to your calm mind the idea and form of some world (take, if you please, the thirtieth of those that the philosopher, Metrodorus, imagined) wherein there shall be neither debtor nor creditor. A world without debts! Then, among the stars there will be no regular course; all will be disorder. Jupiter, not considering himself a debtor to Saturn, will depose him from his sphere; and &c."—Book iii., chap. 3.

How Panurge behaved during the Storm.—"Panurge having fed the fishes with the contents of his stomach, lay on the deck all huddled up, forlorn, jointless, and half dead; invoked all the blessed saints and saintesses to his aid; vowed he would confess himself in time and place convenient; then called out 'Steward, my friend, my father, my uncle, a little salt meat; we shall drink too much anon, I fear. Would I were now at this very moment safe on shore. O thrice and four times happy those that plant cabbages! O

Fates, why did you not spin me to be a planter of cabbages? O how small is the number of those that Jupiter has been so propitious to, as to predestinate them to plant cabbages! * * Murder, this wave will sweep us away. O my friends, a little vinegar! I sweat with sheer agony. * * Bou, bou, bou, bous, bous. It is all over with me. Bou, bou, bou, bou. Otto, to, to, to, ti. Bou, bou, bou, ou, ou, ou, bou, bou, bous, bous, I drown, I sink, I die, good people, I die.' * * Friar John perceived him as he was going on the quarter-deck, and said, 'What, Panurge the calf—Panurge the weeper—Panurge the whiner! Much better for you to help us here than to cry like a calf, sitting on your hams like a monkey.' 'Be, be, be, bous, bous, bous,' answered Panurge, 'Friar John, my friend, my good father, I drown, I drown, my friend, I drown. It is all over with me, my spiritual father, my friend, it is all over with me. Be, be, be, bous, bous. I drown. O my father, my uncle, my all. The water has got into my shoes. Bous, bous, bous, pash, hu, hu, hu, ha, ha, ha, ha. I drown. Alas! alas! hu, hu, hu. Bebebeous, bous, bobous, bobous, bous, alas! alas! Would I were just now with those good holy friars going to the council, that we met this morning, so godly, so fat, so merry, so plump, so happy. Holos, holos, holos, alas, alas, Friar John, my father, my friend, confession. Here I am at your knees; *Confiteor*; your holy blessing.' (Here a volley of oaths at his cowardice from Friar John.) 'Let us not swear,' said Panurge, 'my father, my friend; not just now, at least. To-morrow, as much as you please. Holos, holos, alas, our ship leaks. I drown, alas! alas! I will give eighteen hundred thousand crowns to any one that will put me on shore just as I am. Alas, *Confiteor*, one little word of testament, or codicil at least.' (Another burst of wrath from Friar John.) 'Alas! alas!' said Panurge. 'Alas! bou, bou, bous, bous. Alas! alas! was it here we were predestined to perish? Holos, good people, I drown, I die. *Consummatus est*. I am a dead man.' (Friar John swears again.) 'O, Friar John, my spiritual father, my friend, let us not swear. You sin. Alas, alas! bebebeous, bous, bous! I drown, I die, my friends! I die at peace with all the world! Farewell! *In manus*—Bous, bous, bouououous! St. Michael! St. Nicholas! now or never! I here solemnly vow, that if you help me this bout—I mean, if you set me ashore out of this danger, I will build you a fine, large, little chapel or two, between Luande and Moussoreau. Alas, alas! there has gone into my mouth above eighteen bucketfuls or so! Bous, bous, bous, bous! How bitter and salt it is!' (Another shower of curses from Friar John, who threatens to throw him overboard.) 'Oh,' said Panurge, 'you sin, Friar John, my former crony! Former, I say, for at present I am not, you are not. It grieves me to tell you so; for I believe this swearing does your spleen a deal of good, as a wood-cleaver finds great relief in crying "hem!" at every blow. Nevertheless, you sin, my sweet friend. * * Bebebeous, bous, bous, bous, bous—I drown! I see

neither heaven nor earth! Alas, alas! O that at this present hour I were in the close of Seuille, or at Innocent the pastrycook's, before the public house at Chinon, though I had to put on an apron and make pies myself! My honest man—he speaks to a sailor)—could you throw me ashore? You can do never so many things, they have informed me. I will give you all Salmagundin to yourself, if by any contrivance you can get me ashore."—Book iv. chapters 18—20.

Were we required to characterize, in one word, the style, or method, as it may be called, of the peculiar humor of Rabelais, we should say it consists in *abandonment*—i. e., in unchecked, headlong effusion of everything that comes into the head. In many passages he reminds us of a rough, uncultivated genius, scribbling off page after page of prose fit for horses, simply to make his friends laugh. There is no erasure, no suppression; sentence tumbles after sentence; rubbish is rolled upon sense; good things are not picked out and placed in concatenation, but are presented native as they grew, amid whole beds of weeds. Analyzing this method of humorous invention by sheer abandonment of the faculties to their own course, psychologists would probably arrive at the conclusion that its extreme efficacy depends on the extraordinary complexity of the associative or suggestive processes it gives rise to. In ordinary conversation, in a calm mood, one passes from thought to thought by very simple bonds of association; in public speaking, again, the associative links or hooks by which one advances from one thought on to its successor, are more numerous—the associations of cadence or rhythm, for example, and those of gesticulation or muscular movement, not to speak of the high suggestive power of emotional warmth, all working in unison with the mere logical connection of reason, so as to lead to more splendid reaches of invention, and produce richer effects; but a higher complication still, and consequently a more marvelous power of production, comes into play, in those special moods of either Pythic fervor on the one hand, or voluntary zanyism on the other, when the mind loses all control, as it were, over any part of itself, and drifts along as fate decrees. Omitting the higher kind of abandonment—Pythic fervor, as we have here named it—that leads to bursts of lofty and earnest expression, we think we could cull passages in abundance from our noted humorists, illustrative of the force, for purely humorous effect, of that other variety of the same mental condition, that consists in mere zanyism. "I would I were a weaver; I could sing

psalms or anything"—"If I live to be served such another trick, I'll have my brains taken out and buttered, and give them to a dog for a new-year's gift." What are these, and a hundred other such conceits in Falstaff, but the lucky result, as it were, of sheer voluntary drivel—the lips speaking on in blind haste, and Nature, per force, supplying the matter? And precisely so it is in Rabelais. In him, however, the zanyism is most frequently of a peculiar genus—a vinous zanyism, so to speak; the zanyism of intoxication. We seem to see all through the heavy eye, the swaggering look, the alternate mock-solemnity and downright idiocy of drunkenness. Indeed, as has been well remarked, the whole of Rabelais's book may be best conceived as a drama within a drama; the real scene being the tavern-parlor of the hostelry at Chinon warm and well lighted in a blustering winter night, with a company of jolly toppers seated in it round a board; and the professed story, with its Gargantuas, Panurges, and Friar Johns, passing through this only as a mad phantasmagory, or drunken revel. And thus we see how Rabelais was still the old man, and how, even in his mature age, all that he could do was to roll back his later experience of life, so as to bed and smother it in his early recollections.

Of the vigor of the dramatic or creative faculty in Rabelais, the proof lies in the distinctness with which one learns to picture the main characters of his fiction. What can be finer, in its way, than his description of the domestic old giant, Grangousier, as he was quietly spending his time when the news reached him of the invasion of his territories by Picrochole?—"Grangousier, good old man, warming his thighs at a good, great, clear fire, waiting upon the broiling of some chestnuts, very serious in drawing scratches on the hearth with a stick burnt at one end, wherewith they stirred the fire, telling to his wife and the rest of his family pleasant old stories and tales of former times." Nor is the portrait of Gargantua less clear to the reader. It is, however, upon the three friends and companions—Pantagruel, Friar John, and Panurge, that Rabelais has taken most pains. The characters of these three stand out as conceptions perfectly and peculiarly Rabelaisian. Pantagruel, the wise, the good, the invincible, the modest, the sad, the speculative, half a Hamlet, half a giant; Friar John, the lusty, the fearless, the jovial, the profane, "going through the world like a bull;" and Panurge, the witty, the mischievous, the wily, the unprincipled, half a Pistol

and half a Mephistopheles, with all the lying and cowardice of the one, and all the clever rascality of the other, yet somehow loveable, after all—where shall we find such another triad? And how they set off each other! Panurge always active, always amusing, never at a loss, sneaking off at the first glimpse of danger, re-appearing whenever it is past; Friar John, with his hanger ever ready for a foe, and his knife for a joint, often bullying his poor co-mate, yet bearing with him like a brother; and Pantagruel, sometimes standing apart and looking on, at others joining in the sport, but always as a superior nature, occupied with thoughts of his own—there is something almost fearful in such a conjunction. The affection that Pantagruel bears to Panurge, the uniform kindness and consideration with which he treats that strange unearthly being, who seems but one lump of facetiousness and vice, are positively mystic. He sometimes rebukes Friar John, Panurge never. Of the three characters, Panurge is, beyond question, the masterpiece. As a poetic impersonation of the principle of evil—we do not hesitate to say it—the character of Panurge, by Rabelais, is a more original and masterly conception than that of Mephistopheles, by Goethe.

And this leads us, finally, to the philosophy of Rabelais. It was a favorite opinion of Coleridge, that the real scope of the great work of Rabelais was not political, but philosophical. "Pantagruel," he said, "was the Reason; Panurge, the Understanding—the pollarded man, the man with every faculty except the Reason." With virtually this meaning in view, Rabelais, as Coleridge conceived, was led, by the necessity of the times, to assume the guise of zanyism—now making a deep thrust; then, to appear unconscious of what he had done, writing a chapter or two of pure buffoonery. This hypothesis, a little altered and softened, would almost seem admissible; so clear is it, above all in the delineation of Pantagruel, that Rabelais, too, had his high thoughts and serious moments. And here, without investigating the matter further, let us quote, in conclusion, one passage, in which, more than in any other in the whole work, (we can say this as conscientious readers,) Rabelais has shown his deeper susceptibilities—a passage which proves, we think, that even he, mass of fat, fun, and filth, as people would fain represent him to have been, was subject to visits of a mystic melancholy that Horace never knew. It is where, in Book iv. chapter 28, Pantagruel, discoursing on immortality, relates what is

called "a very sad story of the death of the heroes."

"Epitherses, the father of Æmilian, the rhetorician sailing from Greece to Italy, in a ship freighted with divers goods and passengers, at night the wind failed them near the Echinades, some islands that lie between the Morea and Tunis; and the vessel was driven near Paxos. When they got thither, some of the passengers being asleep, others awake, the rest eating and drinking, a voice was heard that called aloud, "Thamous!" which surprised them all. This same Thamous was their pilot, an Egyptian by birth, but known by name only to some few of the passengers. The voice was heard a second time calling "Thamous," in a frightful tone; and none making answer, but all trembling and remaining silent, the voice was heard a third time, more dreadful than before. This caused Thamous to answer, "Here am I; what dost thou call me for?" Then the voice, louder than before, bid him publish, when he should come to Palodes, that the great god Pan was dead. All the mariners and passengers having heard this, were amazed and affrighted. * * Now when they had come to Palodes, they had no wind, neither were they in any current. Thamous then getting up on the top of the ship's

forecastle, and casting his eyes on the shore, said that he had been commanded to proclaim that the great god Pan was dead. The words were hardly out of his mouth, when deep groans, great lamentations, and doleful shrieks, not of one person, but of many together, were heard from the land. The news of this was soon spread at Rome; insomuch, that Tiberius, who was then emperor, sent for this Thamous, and having heard him, gave credit to his words. * * For my part, I understand the story of that great Saviour of the faithful who was put to death at Jerusalem. He may be called, in the Greek tongue, *Pan*, since he is our *all*. He is Pan, the great shepherd, also, who, as the loving Corydon affirms, hath a tender love, not for his sheep only, but also for their shepherds. At his death, complaints, sighs, tears, and lamentations were spread throughout the whole fabric of the universe—heavens, land, sea, and hell. The time also concurs with this interpretation of mine; for this most mighty Pan, our Saviour, died near Jerusalem, in the reign of Tiberius Cæsar.' *Panagræus having ended this discourse, remained silent and full of contemplation. A little while after, we saw tears flow out of his eyes, as big as ostrich's eggs. God take me presently if I tell you one syllable of a lie in the matter.*"

From Fraser's Magazine.

BEREAVEMENT.

A LONELY, lowly grave,
Far from his native wave,
Tells me a tale, the saddest ever told
Since Death grew bold.

Brother, 'tis not for me,
A sinner like to thee,
To judge the errors of thy guilty path
With scorn and wrath.

I leave thy sins with Him,
Who, though He frown so grim
On man's misdeeds, hath to the penitent
His mercy sent.

Forgetting all thy crime,
I think of that sweet time
When we together roamed along the shore
Of ocean hoar;

When life had all its life,
And joys were full and rife,

And our dear mother made the evening hearth
Sunny with mirth;

When Scotland's heathy hills,
And Scotland's gushing rills,
Borrowed more glory from our phantasies
Than from the skies;

When winter was more bright
With all its snows and night,
And howling tempests scarring Nature's brow,
Than summer now;

When we grew learned in duty
From earth's transcendent beauty,
And the warm sunshine in our genial blood
Taught us the good.

Peace to thee, brother; tears
Darken the mist of years,
And make it torture on the past to dwell.
Farewell,—Farewell.

From Hogg's Instructor.

THE SPHINX'S RIDDLE.

BY THOMAS DE QUINCEY.

THE most ancient* story in the Pagan records, older by two generations than the story of Troy, is that of Œdipus and his mysterious fate, which wrapt in ruin both himself and all his kindred. No story whatever continued so long to impress the Greek sensibilities with religious awe, or was felt by the great tragic poets to be so supremely fitted for scenical representation. In one of its stages, this story is clothed with the majesty of darkness; in another stage, it is radiant with burning lights of female love, the most faithful and heroic, offering a beautiful relief to the preternatural malice dividing the two sons of Œdipus. This malice was so intense, that when the corpses of both brothers were burned together on the same funeral pyre (as by one tradition they were), the flames from each parted asunder, and refused to mingle. This female love was so intense, that it survived the death of its object, cared not for human praise or blame, and laughed at the grave which waited in the rear for itself, yawning visibly for immediate retribution. There are four separate movements through which this impassioned tale devolves; all are of commanding interest; and all wear a character of portentous solemnity, which fits them for harmonizing with the dusky shadows of that deep antiquity into which they ascend.

One only feature there is in the story, and this belongs to its second stage (which is also its sublimest stage), where a pure taste is

likely to pause, and to revolt as from something not perfectly reconciled with the general depth of the coloring. This lies in the Sphinx's riddle, which, as hitherto explained, seems to us deplorably below the grandeur of the occasion. Three thousand years, at the least, have passed away since that riddle was propounded; and it seems odd enough that the proper solution should not present itself till November of 1849. That is true; it seems odd, but still it is possible, that we, in *anno domini* 1849, may see further through a mile-stone than Œdipus, the king, in the year B. C. twelve or thirteen hundred. The long interval between the enigma and its answer, may remind the reader of an old story in Joe Miller, where a traveler, apparently an inquisitive person, in passing through a toll-bar, said to the keeper, "How do you like your eggs dressed?" Without waiting for the answer, he rode off; but twenty-five years later, riding through the same bar, kept by the same man, the traveler looked steadfastly at him, and received the monosyllabic answer, "*Poached.*" A long parenthesis is twenty-five years; and we, gazing back over a far wider gulph of time, shall endeavor to look hard at the Sphinx, and to convince that mysterious young lady—if our voice can reach her—that she was too easily satisfied with the answer given; that the true answer is yet to come; and that, in fact, Œdipus shouted before he was out of the wood.

But, first of all, let us rehearse the circumstances of this old Grecian story. For in a popular journal, it is always a duty to assume, that perhaps three readers out of four may have had no opportunity, by the course of their education, for making themselves acquainted with classical legends. And in this present case, besides the indispensableness of the story to the proper comprehension of our own improved answer to the Sphinx, the story has a separate and independent value of its own; for it illustrates a

* That is, amongst stories not wearing a *mythologic* character, such as those of Prometheus, Hercules, &c. The era of Troy and its siege, is doubtless by some centuries older than its usual chronologic date of nine centuries before Christ. And considering the mature age of Eteocles and Polynices, the two sons of Œdipus, at the period of the "*Seven against Thebes*," which seven were contemporary with the *fathers* of the heroes engaged in the Trojan war, it becomes necessary to add sixty or seventy years to the Trojan date, in order to obtain that of Œdipus and the Sphinx. Out of the Hebrew Scriptures, there is nothing purely historic so old as this.

profound but obscure idea of Pagan ages, which is connected with the elementary glimpses of man into the abysses of his higher relations, and lurks mysteriously amongst what Milton so finely calls "the dark foundations" of our human nature. This notion, it is hard to express in modern phrase, for we have no idea exactly corresponding to it; but in Latin it was called *piacularity*. The reader must understand upon our authority, *nostro periculo*, and in defiance of all the false translations spread through books, that the ancients (meaning the Greeks and Romans before the time of Christianity) had no idea, not by the faintest vestige, of what in the scriptural system is called *sin*. The Latin word *peccatum*, the Greek word *amartia*, are translated continually by the word *sin*; but neither one word nor the other has any such meaning in writers belonging to the pure classical period. When baptized into new meaning by the adoption of Christianity, these words, in common with many others, transmigrated into new and philosophic functions. But originally they tended toward no such acceptations, nor *could* have done so; seeing that the ancients had no avenue opened to them through which the profound idea of *sin* would have been even dimly intelligible. Plato, 400 years before Christ, or Cicero, more than 300 years later, was fully equal to the idea of *guilt* through all its gamut: but no more equal to the idea of *sin*, than a sagacious hound to the idea of gravitation, or of central forces. It is the tremendous postulate upon which this idea reposes, that constitutes the initial moment of that revelation which is common to Judaism and to Christianity. We have no intention of wandering into any discussion upon this question. It will suffice for the service of the occasion if we say, that *guilt*, in all its modifications, implies only a defect or a wound in the individual. *Sin*, on the other hand, the most mysterious, and the most sorrowful of all ideas, implies a taint not in the individual, but in the race—that is the distinction; or a taint in the individual, not through any local disease of his own, but through a scrofula equally diffused through the infinite family of man. We are not speaking controversially, either as teachers of theology or of philosophy; and we are careless of the particular construction by which the reader interprets to himself this profound idea. What we affirm is, that this idea was utterly and exquisitely inappreciable by Pagan Greece and Rome; that various translations from Pindar, from Aristophanes, and from the Greek tragedians,

embodying at intervals this word *sin*,* are more extravagant than would be the word *category* introduced into the harangue of an Indian sachem amongst the Cherokees; and finally, that the very nearest approach to the abysmal idea which we Christians attach to the word *sin* (an approach, but to that which never can be touched—a writing as of palmistry upon each man's hand, but a writing which "no man can read"), lies in the Pagan idea of *piacularity*: which is an idea thus far like hereditary *sin*, that it expresses an evil to which the party affected has not consciously concurred; which is thus far *not* like hereditary *sin*, that it expresses an evil personal to the individual, and not extending itself to the race.

This was the evil exemplified in *Œdipus*. He was loaded with an insupportable burden of pariah participation in pollution and misery, to which his will had never consented. He seemed to have committed the most atrocious crimes; he was a murderer, he was a parricide, he was doubly incestuous, and yet how? In the case where he might be thought a murderer, he had stood upon his self-defence, not benefiting by any superior resources, but, on the contrary, fighting as one man against three, and under the provocation of insufferable insolence. Had he been a parricide? What matter, as regarded the moral guilt, if his father (and by the fault of that father) were utterly unknown to him? Incestuous had he been? but how, if the very oracles of fate, as expounded by events and by mysterious creatures such as the Sphinx, had stranded him like a ship left by the tide, upon this dark unknown shore of a criminality unsuspected by himself? All these treasons against the sanctities of nature had *Œdipus* committed; and yet was this *Œdipus* a thoroughly good man, no more dreaming of the horrors in which he was entangled, than the eye at noonday in midsummer is conscious of the stars that lie far behind the

* And when we are speaking of this subject, it may be proper to mention (as the very extreme anachronism which the case admits of), that Mr. Archdeacon W. has absolutely introduced the idea of *sin* into the "Iliad;" and, in a regular octavo volume, has represented it as the key to the whole movement of the fable. It was once made a reproach to Southey, that his Don Roderick spoke, in his penitential moods, a language too much resembling that of Methodism: yet, after all, that prince was a Christian, and a Christian amongst Mussulmans. But what are we to think of Achilles and Patroclus, when described as being (or *not* being) "under convictions of *sin*?"

day-light. Let us review rapidly the incidents of his life.

Laius, king of Thebes, the descendant of Labdacus, and representing the illustrious house of the Labdacide—about the time when his wife, Jocasta, promised to present him with a child—had learned from various prophetic voices that this unborn child was destined to be his murderer. It is singular that in all such cases, which are many, spread through classical literature, the parties menaced by fate believe the menace, else why do they seek to evade it? and yet believe it not; else why do they fancy themselves able to evade it? This fatal child, who was the *Œdipus* of tragedy, being at length born, Laius committed the infant to a slave, with orders to expose it on Mount Cithæron. This was done: the infant was suspended, by thongs running through the fleshy parts of his feet, to the branches of a tree, and he was supposed to have perished by wild beasts. But a shepherd, who found him in this perishing state, pitied his helplessness, and carried him to his master and mistress, king and queen of Corinth, who adopted and educated him as their own child. That he was *not* their own child, and that in fact he was a foundling of unknown parentage, *Œdipus* was not slow of finding from the insults of his schoolfellows; and at length, with the determination of learning his origin and his fate, being now a full-grown young man, he strode off from Corinth to Delphi. The oracle of Delphi, being as usual in collusion with his evil destiny, sent him off to seek his parents at Thebes. On his journey thither, he met, in a narrow part of the road, a chariot proceeding in the counter direction from Thebes to Delphi. The charioteer relying upon the grandeur of his master, insolently ordered the young stranger to clear the road; upon which, under the impulse of his youthful blood, *Œdipus* slew him on the spot. The haughty grandee who occupied the chariot rose up in fury to avenge this outrage, fought with the young stranger, and was himself killed. One attendant upon the chariot remained: but he, warned by the fate of his master and his fellow-servant, withdrew quietly into the forest that skirted the road, revealing no word of what had happened, but reserved by the dark destiny of *Œdipus*, to that evil day on which his evidence, concurring with other circumstantial exposures, should convict the young Corinthian emigrant of parricide. For the present, *Œdipus* viewed himself as no criminal, but much rather as an injured man, who

had simply used his natural powers of self-defence against an insolent aggressor. This aggressor, as the reader will suppose, was Laius. The throne therefore was empty on the arrival of *Œdipus* in Thebes: the king's death was known, but not the mode of it; and that *Œdipus* was the murderer, could not reasonably be suspected either by the people of Thebes, or by *Œdipus* himself. The whole affair would have had no interest for the young stranger; but through the accident of a public calamity then desolating the land, a mysterious monster, called the Sphinx, half woman and half lion, was at that time on the coast of Bœotia, and levying a daily tribute of human lives from the Bœotian territory. This tribute, it was understood, would continue to be levied from the territories attached to Thebes, until a riddle proposed by the monster should have been satisfactorily solved. By way of encouragement to all who might feel prompted to undertake so dangerous an adventure, the authorities of Thebes offered the throne and the hand of the widowed Jocasta as the prize of success; and *Œdipus*, either on public or on selfish motives, entered the lists as a competitor.

The riddle proposed by the Sphinx, ran in these terms:—"What creature is that which moves on four feet in the morning, on two feet at noon-day, and on three toward the going down of the sun?" *Œdipus*, after some consideration, answered, that the creature was *MAN*, who creeps on the ground with hands and feet when an infant, walks upright in the vigor of manhood, and leans upon a staff in old age. Immediately the dreadful Sphinx confessed the truth of his solution by throwing herself headlong from a point of rock into the sea; her power being overthrown as soon as her secret had been detected. Thus was the Sphinx destroyed; and, according to the promise of the proclamation, for this great service to the state, *Œdipus* was immediately recompensed. He was saluted King of Thebes, and married to the royal widow Jocasta. In this way it happened, but without suspicion either in himself or others, pointing to the truth, that *Œdipus* had slain his father, had ascended his father's throne, and had married his own mother.

Through a course of years all these dreadful events lay hushed in darkness; but at length a pestilence arose, and an embassy was despatched to Delphi, in order to ascertain the cause of the heavenly wrath, and the proper means of propitiating that wrath.

The embassy returned to Thebes armed with a knowledge of the fatal secrets connected with Œdipus, but under some restraints of prudence in making a publication of what so dreadfully affected the most powerful personage in the state. Perhaps in the whole history of human art as applied to the evolution of a poetic fable, there is nothing more exquisite than the management of this crisis by Sophocles. A natural discovery, first of all, connects Œdipus with the death of Laius. That discovery comes upon him with some surprise, but with no shock of fear or remorse. That he had killed a man of rank in a sudden quarrel, he had always known; that this man was now discovered to be Laius, added nothing to the reasons for regret. The affair remained as it was. It was simply a case of personal strife on the high road, and one which had really grown out of aristocratic violence in the adverse party. Œdipus had asserted his own rights and dignity only as all brave men would have done in an age that knew nothing of civic police.

It was true that this first discovery—the identification of himself as the slayer of Laius—drew after it two others, viz., that it was the throne of his victim on which he had seated himself, and that it was *his* widow whom he had married. But these were no offences; and, on the contrary, they were distinctions won at great risk to himself, and by a great service to the country. Suddenly, however, the reappearance and disclosures of the shepherd who had saved his life during infancy, in one moment threw a dazzling but funereal light upon the previous discoveries that else had seemed so trivial. In an instant everything was read in another sense. The death of Laius, the marriage with his widow, the appropriation of his throne—all towered into colossal crimes, illimitable, and opening no avenues to atonement. Œdipus, in the agonies of his horror, inflicts blindness upon himself; Jocasta commits suicide; the two sons fall into fiery feuds for the assertion of their separate claims on the throne, but previously unite for the expulsion of Œdipus, as one who had become a curse to Thebes. And thus the poor heart-shattered king would have been turned out upon the public roads, aged, blind, and a helpless vagrant, but for the sublime piety of his two daughters, but especially of Antigone the elder. They share with their unhappy father the hardships and perils of the road, and do not leave him until the moment of his mysterious summons to some ineffable death in the woods of Colonus. The expulsion of

Polynices, the younger son, from Thebes; his return with a confederate band of princes for the recovery of his rights; the death of the two brothers in single combat; the public prohibition of funeral rites to Polynices, as one who had levied war against his native land; and the final reappearance of Antigone, who defies the law, and secures a grave to her brother at the certain price of a grave to herself—these are the sequels and arrears of the family overthrow, accomplished through the dark destiny of Œdipus.

And now, having reviewed the incidents of the story, in what respect is it that we object to the solution of the Sphinx's riddle? We do not object to it as *a* solution of the riddle, and the only one possible at the moment; but what we contend is, that it is not *the* solution. All great prophecies, all great mysteries, are likely to involve double, triple, or even quadruple interpretations—each rising in dignity, each cryptically involving another. Even amongst natural agencies, precisely as they rise in grandeur, they multiply their final purposes. Rivers and seas, for instance, are useful, not merely as means of separating nations from each other, but also as means of uniting them; not merely as baths, and for all purposes of washing and cleansing, but also as reservoirs of fish, as high-roads for the conveyance of commodities, as permanent sources of agricultural fertility, &c. In like manner, a mystery of any sort, having a public reference, may be presumed to couch within it a secondary and a profounder interpretation. The reader may think that the Sphinx ought to have understood her own riddle best; and that, if *she* was satisfied with the answer of Œdipus, it must be impertinent in us at this time of day to censure it. To censure, indeed, is more than we propose. The solution of Œdipus was a true one; and it was all that he *could* have given at that early period of his life. But perhaps, at the moment of his death amongst the gloomy thickets of Attica, he might have been able to suggest another and a better. If not, then we have the satisfaction of thinking ourselves somewhat less dense than Œdipus; for, in our opinion, the full and *final* answer to the Sphinx's riddle lay in the word *ŒDIPUS*. Œdipus himself it was that fulfilled the conditions of the enigma. He it was, in the most pathetic sense, that went upon four feet when an infant; for the general condition of helplessness attached to all mankind in the period of infancy, and which is expressed symbolically by this

image of creeping, applied to Œdipus in a far more significant manner, as one abandoned by all his natural protectors, thrown upon the chances of a wilderness, and upon the mercies of a slave. The allusion to this general helplessness had besides a special propriety in the case of Œdipus, who drew his very name (viz., *Swollen-foot*) from the injury done to his infant feet. He again it was that, in a more emphatic sense than usual, asserted that majestic self-sufficiency and independence of all alien aid, which is typified by the act of walking upright at noonday upon his own natural basis. Throwing off all the power and splendor borrowed from his royal protectors at Corinth, trusting exclusively to his native powers as a man, he had fought his way through insult to the presence of the dreadful Sphinx; her he had confounded and vanquished; he had leaped into a throne—the throne of him who had insulted him, without other resources than such as he drew from himself, and he had in the same way obtained a royal bride. With good right, therefore, he was foreshadowed in the riddle as one who walked upright by his own masculine vigor, and relied upon no gifts but those of nature. Lastly, by a sad but a pitying image, Œdipus is described as supporting himself at nightfall on three feet; for Œdipus it was that by his cruel sons would have been rejected from Thebes with no auxiliary means of motion or support beyond his own languishing powers; blind and broken-hearted, he must have wandered into snares and ruin; his own feet must have been supplanted immediately: but then came to his aid another foot, the holy Antigone. She it was that guided and cheered him, when all the world had forsaken him; she it was that already, in the vision of the cruel Sphinx, had been prefigured dimly as the staff upon which Œdipus should lean, as the *third* foot that should support his steps when the deep shadows of his sunset were gathering and settling about his grave.

In this way we obtain a solution of the Sphinx's riddle more commensurate and symmetrical with the other features of the story, which are all clothed with the grandeur of mystery. The Sphinx herself is a mystery. Whence came her monstrous nature, that so often renewed its remembrance amongst men of distant lands, in Egyptian or Ethiopian marble? Whence came her wrath against Thebes? This wrath, how durst it tower so high as to measure itself against the enmity of a na-

tion? This wrath, how came it to sink so low as to collapse at the echo of a word from a friendless stranger? Mysterious again is the blind collusion of this unhappy stranger with the dark decrees of fate. The very misfortunes of his infancy had given into his hands one chance more for escape; these misfortunes had transferred him to Corinth, and staying *there* he was safe. But the headstrong haughtiness of youthful blood causes him to recoil unknowingly upon the one sole spot of all the earth where the co-efficients for ratifying his destruction are waiting and lying in ambush. Heaven and earth are silent for a generation; one might fancy that they are *treacherously* silent, in order that Œdipus may have time for building up to the clouds the pyramid of his mysterious offences. His four children, incestuously born, sons that are his brothers, daughters that are his sisters, have grown up to be men and women, before the first mutterings are becoming audible of that great tide slowly coming up from the sea, which is to sweep away himself and the foundations of his house. Heaven and earth must now bear joint witness against him. Heaven speaks first: the pestilence that walketh in darkness is made the earliest minister of the discovery—the pestilence it is, scourging the seven-gated Thebes, as very soon the Sphinx will scourge her, that is appointed to usher in, like some great ceremonial herald, that sad drama of Nemesis—that vast procession of revelation and retribution which the earth, and the graves of the earth, must finish. Mysterious also is the pomp of ruin with which this revelation of the past descends upon that ancient house of Thebes. Like a shell from modern artillery, it leaves no time for prayer or evasion, but shatters with the same explosion all that stand within its circle of fury. Every member of that devoted household, as if they had been sitting—not around a sacred domestic hearth, but around the crater of some surging volcano—all alike, father and mother, sons and daughters, are wrapt at once in fiery whirlwinds of ruin. And amidst this general agony of destroying wrath, one central mystery, as a darkness within a darkness, withdraws itself into a secrecy unapproachable by eyesight, or by filial love, or by guesses of the brain—and *that* is the death of Œdipus. *Did* he die? Even *that* is more than we can say. How dreadful does the sound fall upon the heart of some poor, horror-stricken criminal, pirate, or murderer, that has offended

by a mere human offence, when, at nightfall, tempted by the sweet spectacle of a peaceful hearth, he creeps stealthily into some village inn, and hopes for one night's respite from his terror, but suddenly feels the touch and hears the voice of the stern officer saying, "Sir, you are wanted." Yet that summons is but too intelligible; it shocks, but it bewilders not; and the utmost of its malice is bounded by the scaffold. "Deep," says the unhappy man, "is the downward path of anguish which I am called to tread; but it has been trodden by others." For Œdipus there was no such comfort. What language of man, or trumpet of angel, could decipher the woe of that unfathomable call, when, from the depth of ancient woods, a voice that drew like gravitation, that sucked in like a vortex, far off yet near, in some distant world, yet close at hand, cried, "Hark, Œdipus! King Œdipus! come hither, thou art wanted!" *Wanted!* for what? Was it for death? Was it for judgment? Was it for some wilderness of pariah eternities? No man ever knew. Chasms opened in the earth; dark, gigantic arms stretched out to receive the king; clouds and vapor settled over the penal abyss; and of him only, though the neighborhood of his disappearance was known, no trace or visible record survived, neither bones, nor grave, nor dust, nor epitaph.

Did the Sphinx follow with her cruel eye this fatal tissue of calamity to its shadowy crisis at Colonus? As the billows closed over her head, did she perhaps attempt to

sting with her dying words? Did she say, "I, the daughter of mystery, am *called*; I am *wanted*?" But, amidst the uproar of the sea, and the clangor of sea-birds, high over all I hear another, though a distant summons. I can hear that thou, Œdipus, the son of mystery, art *called* from afar: thou also wilt be *wanted*." Did the wicked Sphinx labor in vain, amidst her parting convulsions, to breathe this freezing whisper into the heart of him that had overthrown her?

Who can say? Both of these enemies were pariah mysteries, and may have faced each other again with blazing malice in some pariah world. But all things in this dreadful story ought to be harmonized. Already in itself it is an ennobling and an idealizing of the riddle, that it is made a double riddle; that it contains an exoteric sense obvious to all the world, but also an esoteric sense—now suggested conjecturally after thousands of years—*possibly* unknown to the Sphinx, and *certainly* unknown to Œdipus; that this second riddle is hid within the first; that the one riddle is the secret commentary upon the other; and that the earliest is the hieroglyphic of the last. Thus far as regards the riddle itself; and, as regards Œdipus in particular, it exalts the mystery around him—that in reading this riddle, and in tracing the vicissitudes from infancy to old age, attached to the general destiny of his race, unconsciously he was tracing the dreadful vicissitudes attached specially and separately to his own.

TRUE PHILOSOPHY.

"Sing as the birds sing."—GOETHE.

With sweet flowers opening on thy sight daily,
Sing as the birds sing, gladly and gaily.
Think not of autumn sere, winter's grim shadows;
Sing as the birds sing over the meadows.

See what the hour reveals fairly and truly—
Not what the cloud conceals, but the cloud duly.
Think every common day is a good granted;
Hail every trial sent as a seed planted.

Paint not the tempest's hour, till it close o'er thee;
Trust not to fancy's power, have it before thee.
Seen its aurora-gleams, felt its dark terror,
Then to thy work proceed, fearless of error.

God sendeth naught in vain, gladness or sorrow:
Strength giveth of its gain, weakness must borrow.
Tempest and summer rain give the tree stature;
Each one who skulks the pain, narrows his nature.

THE HUNGARIAN CROWN.

THE Hungarian crown, it is generally believed, Kossuth has taken with him in his flight; if so, it has for a second time crossed the frontiers of Turkey. The past history of this crown is a curious one, and as full of vicissitudes as the lives of some of those who have worn it. The Magyars attach a superstitious value to the relic of their ancient monarchy; there is a legend that it was wrought by the hands of angels for St. Stephan, who was crowned in it in 1001; history, with a more limited faith, records that it was sent as a present to Stephan by Pope Sylvester the Second. In 1072 Duke Geisa received from the Greek Emperor a golden circlet or royal band for his brow; when he was afterward made King of Hungary he joined this circlet to the diadem, so that the crown is really composed of two kingly emblems united. When the race of the Arpads became extinct, in 1301, there was a double election to the vacant throne; one party chose Robert of Anjou and Naples, the other Wenzel, the younger, of Bohemia. The cause of the latter did not prosper, and his affairs were taking an unfortunate turn, when his father, Wenzel, King of Bohemia, marched an army to Ofen, and carried off his son and the crown with him to Prague. The Hungarians then definitively elected Otto, of Bavaria, and old Wenzel, for reasons not stated, gave up the crown to him. Otto to take possession of his kingdom had to ride *incognito* through Austria, carrying the crown as a "property" with him. It was packed in a little cask, and hung at the saddle-bow of a German Graf, who discovered, one morning at daybreak, that he had lost his precious charge during the night. The party had then arrived at Fischerment, below Vienna, where they were about to cross the Donau; they retraced their steps, and, by great good luck, found cask and crown again. In 1307 Otto went to Siebenburgen, on a visit to the Waywode Ladislas, intending to win him over to his party; he must have failed signally in his attempt, for the old Waywode seized the Crown, and made the King a prisoner. After some time, he saw fit to let Otto go, but kept firm possession of the diadem for three years. In 1310, on threats of war and extermination, he gave it up. For

more than a century after this its history is a blank; but in 1439, on the death of the Emperor Albrecht IV., there was again a double election, the two rivals being Wladislaw, of Poland, and Ladislas, the infant son of Albrecht. The Empress resolved to have the child crowned, and for that purpose the diadem was stolen from the Castle of Wissegrad by one of her maids of honor, who undertook the task, and succeeded. In 1441, the Empress made a less dignified use of it,—she pledged it to the Emperor Frederick IV. for 2000 gulden. It was redeemed by Mathias Corvinus, and taken back to Wissegrad; from hence, after the battle of Mohac, it was again stolen, and again by a woman, in order to crown John Zapolya. Zapolya gave it in charge to Preny, who delivered it up to Ferdinand I.; he was crowned with it in 1527, and then it fell into the hands of the Turks. As Solyman returned from the siege of Vienna, he publicly exhibited the crown to his army in Ofen, but told his soldiers that it was that of the renowned Persian ruler Nushirvan: he then sent it back to his *protégé* Zapolya, on whose death it was again given up by his widow to the Emperor Ferdinand. Rudolph II. sent the crown to Prague; Mathias II. brought it back to Presburg, where, in 1619, it was seized by Bethlem Gabor; on the conclusion of the peace of Nikolsburger, he gave it up to Ferdinand II. The Emperor Joseph had it brought to Vienna; Leopold sent it again to Hungary, where it remained till the taking of Pesth by Windischgrätz, when it was removed by Kossuth, and has ever since been kept at the seat of the Hungarian Government; that being broken up and dispersed, the crown has resumed its wanderings. As to what has become of it, there are many rumors; it is said to be buried in a secret place. According to others, Kossuth has it in his personal possession, and by this time the diadem, that was the gift of a Pope to a saint, has been stripped of its jewels to go as bribes to the Mohammedan, and the gold has terminated an almost sacred existence of eight centuries as ignominiously as a mere piece of stolen plate in the melting pot of a Jew!—*Times' Correspondent.*

From Fraser's Magazine.

THE BATTLE OF TRAFALGAR.—NO. II.

M. THIERS' ACCOUNT.

WHEN Napier has to relate the deeds of French generals and French armies, with whom it had been his lot to be engaged, there is no niggard praise bestowed upon them. Willingly, nay eagerly, he gives them their full meed of approbation; brings out in bold relief all that deserves admiration, whether it be mere soldierly daring or the high excellence of consummate generalship. This praise is bestowed not merely on Napoleon, whose genius may be supposed to have dazzled the judgment, and to have won upon the chivalrous spirit, of the gallant historian, but to all who deserve it. He deals as frankly and liberally with the lieutenants, as with their great chief himself. And this surely is the spirit in which such a history ought to be written. Let us not add to the inevitable miseries of warfare the bitterness of a deadly *vendetta*, or the mean, shuffling envy and hate of low and pettifogging partisan politicians; but let the same chivalry be found in the historian who records noble deeds as in warriors who perform them. The last months of Nelson's career exhibited such a combination of patriotic devotion, of utter forgetfulness of himself in the pursuit of what he deemed his country's good; such energy, sagacity, and daring, as ought to extort praise—and not merely praise, but respect and admiration, from any enemy, but above all from a gallant and noble enemy. And a high-minded, generous historian, no matter of what country, would be scrupulously careful and eager to set forth the great deeds of such a man, because they do honor, not to one country, but to all; not to one profession or order of men, but to mankind. What, then, shall we think of an historian, speaking of him merely as an artist, who in the description of Trafalgar omits all mention of that one event of the many that occurred on that terrible day, which peculiarly gives it a great moral interest for ages yet to come—we mean, of the celebrated signal with

which Nelson led his countrymen to battle, and which gave to every man's actions that day the impulse which an exalted patriotism could alone impart? Why does M. Thiers record the stirring proclamations of Napoleon to his soldiers? He does so, because he wishes to describe the spirit which actuated the thousands whom that mighty chief led to war. He desires to record the skill with which Napoleon brought moral influences to work for him, and made himself the idol of the people and of the army. Among the means he employed, were the remarkable proclamations which he from time to time addressed to his soldiers, and through them to France. In these his genius often shone out with extraordinary brightness and vigor; and M. Thiers does Napoleon but bare justice when he carefully records some of the more remarkable of these very striking productions. The celebrated signal made by Nelson as he bore down upon his enemy was a happy stroke of genius also, and of the same character as that shown by Napoleon in the more stirring of his proclamations. But it was in one thing superior to them—it was wholly unpremeditated, but was suggested by a thorough knowledge of the character of the people whom he addressed. It was simple, brief, and touched a chord, at that moment tuned to fine issues. It roused his fleet; it stirred up the nation; and will be handed down from generation to generation of Englishmen—keeping them under its spell a great, because a united people. Was this an incident to be passed over in contemptuous silence by one who calls himself a statesman, and aspires to the character of a philosophic historian? Passed over because an English sailor was to derive honor from it! and because depreciating English sailors is just now an easy means to win popular favor for political adventurers in France!

Nelson possessed more than any other English commander the happy art of in-

spiring his followers with enthusiasm for their country's cause, and love and admiration for himself. The great English general of our day conquered for himself the confidence of his troops. They felt assured of safety and of success while under his command, but he never won their affections in the way that Napoleon won that of his armies, and Nelson of his fleet. And Nelson, also like Napoleon, but in a different degree and mode, not only thus won the hearts of the men whom he led, but of the whole nation for whom he went forth to battle. Hannibal at Zama, Themistocles at Salamis, Washington at Valley Forge, Nelson at Trafalgar, are embalmed in the memories of mankind, because the same great principle hallowed the courage and sagacity evinced by all and each of them; and when an historian, amid the annals of guilt, and folly, and baseness, which form but too large a portion of human records, meets with these bright and singular manifestations of wisdom, virtue, and of valor, he asks not, thinks not, of the country which is illustrated by them, but considering that such examples are the appanage of mankind, eagerly records them as an honor to the race to which he belongs. We must believe that a generous Frenchman would thus read the history of the last few months of Nelson's brilliant career, and would desire to have it thus recorded. We look in vain for any such generosity of tone or sentiment in the narrative of M. Thiers.

The simple narrative, indeed, given by Nelson's own letters, and by the daily log of his ship and of his fleet, brings out the spirit of the man—and that with which he inspired every one who came near him—more effectively, though simply, than the most labored description. He felt confident himself, and created confidence in others. Not only were those immediately under his command inspired with the same emotions and hopes as himself, but so also were the whole people of England. When Sir Robert Calder lost his opportunity, and failed to crush the enemy's fleet, a shout arose in England for Nelson. The cry was, "The enemy would not have escaped had Nelson commanded." And Nelson, who, jaded by his long and fruitless chase of Villeneuve, had sought repose on shore, was taken from his retirement and at once placed at the head of the Channel fleet. The scene that occurred on his arrival at Portsmouth shows what the feelings of the people were respecting him. A crowd collected to see him embark; "they pressed forward to see his face; many were in tears,

and many knelt down before him and blessed him as he passed." The English of every rank have a horror of doing anything in real life which has a theatrical air; they are, therefore, singularly averse to any open demonstration of feeling; and nothing but an extraordinary, an overwhelming emotion, could have so far carried away an English crowd as to make them thus break through their constitutional reserve, and give that emotion this passionate expression. Kneeling in the street under the influence of such an excitement is a sight not to be witnessed in England once in a generation, and Nelson's remark on it was true—"I have had their huzzas before, I have their hearts now."

Nelson felt sure that he went forth to conquer; he had also a strong presentiment that he should never return alive.* He never hesitated to give expression to both expectations. "Depend on it," he said to Capt. Blackwood, "I shall yet give M. Villeneuve a drubbing." "I hope my absence will not be long," he writes to his friend, Mr. Davison, "and that I shall soon meet the combined fleets, with a force sufficient to do the job well, for half a victory would but half content me. But I do not believe the Admiralty can give me a force within fifteen or sixteen sail of the line of the enemy, *and, therefore, if every ship took her opponent, we should have to contend with a fresh fleet of fifteen or sixteen sail of the line.*" The expectation of his death was expressed as plainly and as often to Capt. Blackwood, who, as he was leaving the Victory, just going into action, said,—"I trust, my lord, that on my return to the Victory, which will be as soon as possible, I shall find your lordship well, and in possession of twenty prizes." He answered, and they were the last words he ever spoke to his friend,—"God bless you, Blackwood; I shall never speak to you again." This allusion to twenty prizes related to the previous conversation, which also proves how confident Nelson felt of victory. "What should you call a victory, Blackwood?" to which Blackwood replied, in the spirit of his chief,—"Considering the handsome way in which the battle is offered by the enemy, their apparent determination for a fair trial of strength [we have seen how Villeneuve was

* Trivial, accidental circumstances prove this, even more strongly than serious expressions. He gave orders to his upholsterer, in whose keeping he left the coffin made out of the l'Orient's mast, to get it ready, "For," said he, in his usual gay way, "I think it highly probable that I may want it on my return."

by his chief driven to make this offer], and the proximity of the land, I think if fourteen ships are captured it would be a glorious result." "I shall not, Blackwood," Nelson answered, "I shall not be satisfied with anything short of twenty." His estimation was curiously accurate—the enemy lost twenty-one, captured and destroyed."

Nelson learned that he was appointed to the command of the fleet on the 3d or 4th of September. On the 14th, he hoisted his flag on board the Victory. On the 28th, he joined the fleet off Cadiz, having anxiously given orders that he was not to be saluted on his arrival; neither would he allow any salute to be fired on the arrival of other ships, lest the enemy should have notice of his arrival and his strength. Knowing that they would not come out of Cadiz if they supposed him strong in numbers, his every care was directed to create a belief that he had a comparatively small force under his command. At this time his fleet was really thirty sail of the line,* and he ascertained that of the enemy to be thirty-five or thirty-six. The expressions employed by M. Thiers respecting these proceedings account for them in the same way:—"Pour ne pas trop intimider son adversaire, il avait même soin de ne pas serrer Cadix de trop près." He kept, indeed, above sixteen leagues from land, lest he should be seen.

His ships being deficient in water, he was obliged to detach them in sections to Gibraltar, to obtain water; and six vessels which belonged to his fleet were absent necessarily on the 21st of October, and one he allowed Sir Robert Calder to take home, because he shrunk from giving pain to, by appearing to cast an indignity on that officer, by taking from him his ship, and sending him home in a frigate—a generous weakness on the part of Nelson, still a weakness, and at that time highly blameable. Had these seven vessels been retained, the subsequent engagement would have been comparatively easy work. Thiers seems to think this conduct was the result of Nelson's contemptuous opinion of his adversary. He had fancied the English to be thirty-three or thirty-four, and was "charmed to learn," says M. Thiers, "that they had not so many." He fancied them weaker than they really were—supposing

they had only twenty-three or twenty-four. So soon as he discovered the weakness of the English he ventured out of port. It appears that he learned the comparatively small numbers of the English, and the departure of Rossilly from Paris to supersede him at the same time, and in order to escape dishonor (such is the expression of M. Thiers) he went forth to fight. The words of M. Thiers are curious:—

"Pressé de sa soustraire à ce déshonneur, et profitant de ses instructions qui l'autorisaient à sortir, qui lui en faisaient même un devoir, lorsque l'ennemi serait en force inférieure, il considéra les avis reçus dernièrement comme une autorisation d'appareiller."*

This *twisting* is quite according to the whole spirit of the relation. Napoleon had from the first insisted that the fleet should not under any circumstances remain at Cadiz, and sent Rossilly to take it out.

The French fleet at length sailed from Cadiz,—thirty-three ships of the line, five frigates, and two brigs. "A beautiful sight," says their historian; "the French working their vessels skillfully, the Spaniards badly enough,—at least, for the most part." That this last assertion is not true the action proved. On the evening of the 19th they were out of Cadiz harbor. The whole of the 20th they kept close in shore, sailing to the south. The English were not in sight, but they were near, and Nelson was quickly informed of the sailing of his opponent. Not seeing his dreaded enemy, Villeneuve hoped that he might escape. "On se flatta un moment de rencontrer les Anglais en force très inférieure. Une lueur d'espérance se fit jour dans l'âme de Villeneuve, ce devait être la dernière de sa vie." The fleet held to the south-west, and just as daylight fell Blackwood made the signal that they appeared determined to go westward. Nelson thereupon stood during the night to the south-west; in the morning at four he was standing north-east. As day dawned Cape Trafalgar bore east by south, twenty-one miles distant, and between the English and the Cape lay the enemy's fleet, with their heads also east by south. The first evolution of that day, on the part of each fleet, was the sign of the spirit which presided over each.

* The vessels belonging to Nelson's fleet seem to have amounted to thirty-four. Twenty-seven went into action, six were at Gibraltar for water, one went home with Calder—making thirty-four. But these could not be kept together because of the wants of the service.

* This is like the exhortation of the préfet in the *Soirées de Neuilly*, who, exhorting the National Guard to attack the supposed enemy, says, grandiloquently,—"Souvenez-vous—que vous êtes Français—des braves—et gens d'honneur—et—vingt contre un."

The French were bringing their heads toward Cadiz, thus looking for a means of escape; the English fleet bore up at once, set every possible sail, and swooped, like an eagle with its broad wings outspread, right upon its quarry. Nelson's orders and plan now came into operation. Two lines were formed, and bore down under the command, one of Nelson, the other of Collingwood,—of Collingwood, who, like Gravina, was a most worthy second; but who, more fortunate than his opponent, had a chief whom he respected, as well as loved. And now, when all was done apparently that forethought and skill could devise,—when Nelson had given his last orders to his fleet, and nothing remained but for them to execute what he had so sagaciously planned, he suddenly, by his genius, personified that great, dear country for which they were now to fight, and brought her as it were into presence, expressing her dignified confidence in her worthy sons. Simple, and proud, and calm she seemed to preside over that terrible scene, expecting, she said, that on that day every man would do his duty! The effect of the signal by which Nelson thus addressed the fleet was electric. We have heard old men who were in that day's fight speak of it with voices trembling with emotion, and with fire flashing from their eyes, showing the mighty power of that spell which the cold, palsy hand of age could not deprive of its influence, and which time itself had left unimpaired.

The different auspices under which the two fleets went to battle have been dwelt upon by a French writer, who has narrated the story in a much wiser and more dignified style than that adopted by M. Thiers. The well-known work, entitled *Monumens des Victoires et Conquêtes des Français*, remarks thus upon the directions given by the two opposing chiefs. Nelson had said, in his celebrated memorandum to his captains: "Captains are to look to their particular line as their rallying point. But in case signals can neither be seen nor perfectly understood, no captain can do very wrong if he places his ship alongside that of his enemy." Ville-neuve's circular said, *Tout capitaine est à son poste, s'il est au feu*.

M. Thiers takes a different view; and, after saying that Bruix, who was killed at the Nile, and who was so superior to Ville-neuve, gave the same order, observes, that if every captain had followed this simple rule, dictated as much by honor as experience, the English would have numbered fewer

triumphs, or would have paid for them more dearly.

The life of Nelson was dear to every Englishman: no man doubted *his* courage, and they were anxious that he should run no unnecessary risks. Still, he was too well versed in human nature not to appreciate the value of his example. Just because he was so brave, his rushing into battle at the head of his line was of infinite service. To equal such a man was a glory few could hope for; but by striving to equal him honor was gained. He who kept upon an even line with his fiery chief would of necessity be in the front rank of honor. The head of the line, according to Nelson's original plan, was not to be his post; he took it, however, and when by his anxious friends he was asked to relinquish it, he apparently consented, but, nevertheless, took good care to press the Victory with all her sails, so as to prevent the *Téméraire* from having the honor of first engaging the enemy. Simple in all he did, there was no parade about Nelson; and they who described him as going into battle with a regular fighting coat, covered with stars, little understood the man. This matter of his dress, however, brings out, strangely enough, the *animus* of M. Thiers. Nelson was, in fact, dressed on the 21st as he was always dressed. The coat that he had on was the same which he wore when he joined his ship at Portsmouth; and, according to the custom of that time, it had worked upon it, and into the cloth, the orders to which he was entitled. This coat he put on on the morning of the day which was to be his last. *He* never thought of the orders on his coat, or of the mark they made him: still they did make him a mark; and his friends wished that he should shun unnecessary danger, and put on some less conspicuous dress, but no one liked to speak of the matter, and the bustle of the day soon made them all forget it. A controversy followed respecting the coat he wore, and the facts appeared to be as we have related them. M. Thiers, who has read all that has been written on the matter, with no very laudable dexterity, with a sort of *nisi prius* skill, just says so much as to take the mind off the real fact, which was, that Nelson, by simply following his ordinary habits, became a striking object upon his own quarter-deck. But M. Thiers, as if in a parenthesis, says,—*Nelson revêtu d'un vieux frac qu'il portait dans les jours de bataille*; making out that he had a fighting coat, which some of the English writers had said; but then the fighting coat, as they described it,

was a full dress coat blazing with orders, not an old garment, that shrouded rather than discovered the chief. That this was not done by M. Thiers unintentionally is proved by his elaborate description of Admiral Magon's conduct and death. *Magon, que son brillant uniforme désignait aux coups de l'ennemi*, is an expression showing clearly that the idea of danger from a marked and distinguished dress was present in the mind of the historian, and that his description of Nelson was written with the design of inducing the belief that he had taken the precautions which his friends so ardently desired.

In the action which now ensued, the following results plainly appeared :

1. Nelson's tactics produced precisely the effects which he expected. The long line of the enemy being divided, the English inferior force was concentrated upon two separate points, and an equality created for a time. During that time, as Nelson anticipated, the English entirely and irretrievably routed their opponents, and were ready to engage the remaining forces of the enemy when they arrived, should they ever come to try their strength. This result, spite of every art, and all sorts of ambiguous talk, M. Thiers cannot hide. But,

2. This portion of the fleet, thus cut off, (and the greater part of which were French,) did not come back. Four vessels under Admiral Dumanoir, ran away; it is idle to mince the phrase. M. Thiers endeavors, by roundabout talk, to hide this, as respects the French vessels, though he is ready enough to say the thing openly, with respect to the Spaniards. "*Gravina en pouvait encore raillier huit, trois français—le Héros, l'Indomptable, l'Argonaute; cinq Espagnols—le Rayo, le San Francisco de Asis, le San Justo, le Montanez, le Leandros. Ces derniers, nous devons le dire, avaient sauvé leur existence beaucoup plus que leur honneur.*" But here were three French vessels who were in the same dishonorable catalogue; and four, *le Formidable, le Scipion, le Duquay Trouin, and le Mont Blanc*, simply fled; which M. Thiers, who has the happy knack of saying plain things in a very decorative style, calls *consultat la prudence plutôt que le désespoir*. Shakespeare has put the same thing into somewhat different words when he says, "The better part of valor is discretion." Here, then, were seven French ships taking to flight. But Gravina carried away eleven; so that there was a pretty equal share in the dishonor of flight, if dishonor there were,—eight Spanish, seven French. Of the French, indeed, four were

afterward taken; but, as respected the action of the 21st, the result was the same.

3. Of the ships of the combined fleet who fought the valor was incontestable: they were equally brave, French and Spaniards, and were not surpassed by the English. The English, indeed, had more skill, readiness, and that peculiarity which we have throughout called hardihood, and which has in all our warfare with the French given us a decided superiority. But no part of the English fleet thought of flight; a large part of the combined fleet did flee, and by flight alone escaped destruction. M. Thiers, accounting for this victory, speaks thus of the English:—

"*L'expérience, l'habileté de leurs équipages, la confiance qu'ils devaient à leurs succès, leurs assuraient toujours dans ces entreprises téméraires l'avantage sur leurs adversaires, moins agiles, moins confiants quoique ayant autant de bravoure, et souvent davantage.*"—Vol. vi. p. 147.

We admit equal bravery in those who really did fight. But we ask, on what pretence does M. Thiers claim greater valor? Taking the whole who went into battle, a large portion, nearly one-third of the French, though superior in numbers, fled—and fled from pure fright. It would be a surprise to us—and we believe to the whole English people—if M. Thiers could furnish us with one single, well-authenticated instance, during the last war, of an English naval force taking to flight before an inferior force of the enemy. But here we have had a most remarkable instance, not of a single vessel, but a whole division, betaking themselves to their heels, and preserving, in the words of M. Thiers, their existence much more than their honor.

We have now only to remark upon the language employed by M. Thiers respecting Nelson himself. In the heat of a contest, party writers—and even now, when all contest is over, men of vulgar minds—may indulge in disparaging expressions and vituperation respecting the great men of an opposing people. An English pamphleteer, during the American war, might be expected to abuse Washington; during the late war with France, Napoleon; but now, an historian—one really worthy of the name, one above all bigotry and intolerance—above all wretched national vulgar hate—ought to speak of these men with the same candor, and in the same tone that he would employ toward his own countrymen. We again adduce Sir William Napier as our illustration. He judges of Massena or Ney as he would of Hill or of Crawford, of Napoleon as of Wellington; and thus we should have

expected M. Thiers to have spoken; but his observations have the stamp of actual hate; indeed, he uses the very word when speaking of Nelson,—*Ce grand homme de mer, juste objet de notre haine et de notre admiration.* And again,—The ship *Rédoutable* lowered at length her flag; *Mais avant de la rendre, il a vengé sur la personne de Nelson les malheurs de la marine française.* And in another instance he triumphs over his death, and says that the English had to regret the loss of three thousand men, a great number of officers, and *l'illustre Nelson, plus regrettable pour eux qu'une armée*,—expressions which prove the terror Nelson's name inspired; and thus, though not so intended, are indeed the most effective eulogium that could be pronounced upon him,—an eulogium which, however, though it honors the dead, does not redound to the credit of him who utters it. We shall close these papers, already too long, with a few sentences describing the results of the victory on the mind

of Napoleon. These few words prove the importance of this closing scene of Nelson's life, and the mighty permanent benefits his country received in compensation for the great loss she sustained in the death of her greatest naval chief:

“Trafalgar chagrina Napoleon, et lui causas un profond déplaisir. . . Il voulut qu'on parlât peu de Trafalgar dans les journaux français, et qu'on en fit mention comme d'un combat imprudent dans lequel nous avions plus souffert de la tempête que de l'ennemi. . . Il commençait à désespérer de la marine française. . . . A partir de ce jour Napoleon pensa moins à la marine, et voulut que tout le monde y pensât moins aussi.”

In other words, Napoleon was defeated by sea. It now remained to be ascertained whether England's fortune or his was to yield in the struggle which was thenceforward to be continued on the land. That question has been decided.

TRUST.—FAITH.

“My times are in thy hand.”

BY MARTIN FARQUHAR TUPPER.

YET will I trust in all my fears,
Thy mercy, gracious Lord, appears,
To guide me through this vale of tears,
And be my strength.

Thy mercy guides the ebb and flow
Of health and joy, or pain and woe,
To wean my heart from all below,
To Thee at length.

Yes,—welcome pain which Thou hast sent,
Yes,—farewell blessings Thou hast lent;
With thee alone, I rest content,
For Thou art Heaven.

My trust reposes safe and still,
On the wise goodness of thy will,
Grateful for earthly good—or ill,
Which Thou hast given.

O blessed friend! O blissful thought!
With happiest consolation fraught,—
Trust Thee, I may, I will, I ought—
To doubt were sin.

Then let whatever storms arise,
Their Ruler sits above the skies,
And lifting unto Him mine eyes,
’Tis calm within.

Danger may threaten, foes molest,
Poverty brood, disease infest,
Yea, torn affections wound the breast
For one sad hour.

But faith looks to her home on high,
Hope casts around a cheerful eye,
And love puts all the terrors by
With gladdening power.

From the Dublin University Magazine.

THE LAST DAYS OF MIRABEAU.

BY F. PIERS HEALEY.

IN my intercourse with Frenchmen I have met with no historic name which, after perhaps Napoleon's, exercises so general a spell on their imaginations as that of Mirabeau. There is an attractiveness about his personal characteristics, a glare, not to say a greatness, about his volcanic existence, irresistibly fascinating for his countrymen; and even cooler men, thinking over his achievements, may be disposed to find in the popular instinct but an anticipation of the judgments of posterity. No one, probably, ever did so much in so short a time against such difficulties. Born a prodigy of passion, his tempestuous youth and early manhood given up to all the debasing vices and humiliating expedients which need and profligacy naturally beget in the neglected scion of nobility, we have him in his fortieth year, on the eve of his political apparition, offering as the main result of a life to which his extraordinary activity and strange fortunes had given all the hues of romance, a reputation the worst and nearly the most unconsidered in France. There was scarcely a crime or an indignity, public or private, unattached by rumor or fame to his name; and his wife, mistress, father, mother, and nearest friends were the public vouchers, often in print, for accusations of which incest, projected parricide, swindling, breach of parole, and startling ingratitude, formed scarcely the darkest parts. Yet it was this person, "ugly and venomous," degenerated into a poor libelous "litterateur" immersed in debt, and only remaining in France because, like another Cromwell, balked in his plan of passing to America, who, suddenly appearing before the electors of Aix and Marseilles, evoked, by an eloquence till then unheard of in France, that tumultuous spirit of revolution which so soon afterward astounded despotic Europe with the spectacle of a sovereign democracy in its midst—who returning to Paris a deputy, and marshaling by exhaustless ener-

gies the scattered weakness of popular discontent into an organized and systematic resistance, offered at its head defiance to absolute power in its moment of menace and determination, and legalizing rebellion by a polity as new as it was commanding, finally succeeded, in a few short months, in whelming the richest, the most learned, and the most powerful clergy in the world, into the enduring weakness and poverty of Apostolic epochs; in submerging in the popular mass they contemned, the proudest, the most ancient, and the most privileged of Europe's aristocracies, and mastering into personal obsequiousness and constitutional legality, a haughty court by which he had been for years despised and hated, and which, representing the mightiest monarch of the world, stood supported by an army of 100,000 soldiers, and by almost as many bulwarks of prescription, habit, duty, association, and large social interests. The closing scene in the career of this wonderful man exhibited the traits, both striking and gigantesque, which gave so much of character to all he did. The dictator of France, the consciousness of having her attendant on his sick bed but strengthened the singular vanity—natural, however, to every Frenchman—of dying with robes gracefully adjusted like the first Cæsar, and the appeal "*mihi plaudite*" of the second. As Talleyrand, an eye-witness, happily phrased it, he "dramatized his death," and if historians had not gone a step farther, nor stripped the "drama" of much of its interest by debasing it into a *romance*, we should have had fewer justifications for the recital that now meets the eye of the reader.*

* Alison, usually so careful, makes as many faults as he gives lines to the incident; among other instances, attributing to the death speeches pronounced months before, and translating into a quotation from Hamlet an appeal for opium conveyed in the word "*Dormir*." It would, indeed, not be well for the

The health of Mirabeau had long ceased to be good. A Hercules, he had used his powers in impairing the boon of Nature, abandoning himself to every excess except drunkenness, which, as the only family vice left unappropriated, was claimed as the heritage of his witty brother. His long imprisonments in the Isle of Rhe, in the Chateau d'If, in the fortress of Joux, the keep of Vincennes, and the prison of Pentarlier—nearly half his early manhood given to the privations and infamy of the French jails of the eighteenth century, if relatively for time conserving the *forces*, permanently disorganized the mechanism of health. His recent long captivity in the "Donjon" of Vincennes was more especially mischievous. Snatched from the arms of a young, high-born and accomplished woman, who had renounced for him everything, he found himself suddenly transferred to the worst jail of the country he had so recently fled. Doomed for some time, without book, conversation, or correspondence, to feed on his own heart in the awful solitude of a dismal cell—sepulchred alive in all his marvelous activity from a world which the thoughts of an enthralling love, and the ripening hopes of fraternity, made just then priceless, the ardent spirit of the prisoner chafed in maddening impatience against the bars of his cage, and life itself was not without danger, no less from his own hand than disease, amid the outbreaks of his rage, and the broodings of his despair. After bearing for a month what he calls the "mute and terrible severities" of his horrible abode, he was allowed the privilege of complaint, and we have him writing to his jailer—"My health is rapidly failing, and my mind, sinking under the weight of so many disgraces, loses all its energy. If I ought to have hopes in the clemency of the king, then, doubtless, he does not destine me to a perpetual prison. Ah! what a prison!* Alas! I am thoroughly wearied out by these inertitudes, these gleams of hope, these torturing fears! Never was I so weak and desolate. Physically, as morally, I feel as if annihilated!"

repute of History, if her value were to be tested by her faithfulness on an incident so interesting at the moment to Europe, and occurring under the eyes of so many eminent writers. Discrepancies and mistakes, the results of negligence, meet us on every side; and the utmost brevity no more excludes them, as seen in Alison, than the greatest amplitude as shown in so many others.

* "Lettres Originales de Mirabeau, écrites du Donjon de Vincennes."

Through 1778-79, and down to his enlargement, he complains of being subject to fainty fits—to frequent nephritic attacks—to inflammation of the eyes, causing frequent loss of sight—to accesses of fever—to swelling of the legs, from gouty rheumatism—to painful fits of indigestion, and to occasional vomiting of blood. His liberation, which did not take place till the end of 1780, was followed by years of the exhausting literary and forensic labors which distinguished the portion of his life preceding the meeting of the States-General. Dumont, the Genevese Jurisconsult, affirms that a person must have enjoyed his opportunity of observing Mirabeau, to comprehend how much literary labor one man can accomplish in a brief period. But during this period, exercise on horseback and foot, sharing the violence of all his doings, came in frequently to vary and relieve the exhausting sensations of intellectual strife. On the assembly, however, of the States-General, he devoted himself entirely to the toils and exertations of public affairs, with no alternation save that won by a passion or vice which, dominant as his ambition, was, at least, as illicit. When the physician to whom he confided his death-bed first saw him, by accident, in July, 1789, shortly after the meeting of the States-General, he was suffering under jaundice, for which he was under no treatment. Like many great men who have dabbled in medicine, for that illusive art has its amateurs like others, Mirabeau began by an excessive faith in the miracles of physic, and ended, as usual, under the teachership of experience, in doubt and semi-incredulity. In one of the last of his immortal letters to "Sophie," he warns her "*ne te medicamente pas trop*," with the wise assurance, that care and prevention (*l'hygiène*) are the only true medicines. The choice of his medical attendant seems characterized by the spirit of his neglected jaundice. Cabanis was less a physician than a physiologist. He was the student who understood the construction of the complicated piece of mechanism, rather than the workman who by habit appreciated, and by instinct remedied its derangements. He was more at home in the science than the art—in the theory than in the practice of his profession; and curious as the phrase may sound, it will be seen by-and-bye, that his retainer was as much to kill as to cure his patient. A tall, thin, ungainly young man, of high and penetrating intellect, and of gentle and attaching manners—his course of life, as

well as his track of studies, presented a thousand points for the attachment of Mirabeau. Though a younger man, he had gone through hardships alike, and almost as cruel, making his own way unaided through no common difficulties, to the respectable status of physicianship, and winning with it the familiar and confidential converse of Turgot, D'Holbach, Condillac, Benjamin Franklin, Jefferson, Diderot, and D'Alembert. His physiological researches lent elucidations in a new path to the materialist doctrines of his friends; and as amid Mirabeau's conflicting sympathies, popular and patrician, he felt, at all events, as much glory in having *made* the revolution, as he had gratification in its subsequent *sale*, he allied himself with all the warmth of his character, and more than its usual stability, to the young savant of new thought and philosophic daring, who seemed to him to embody in its professional relations the higher spirit and tendencies of a public which had accepted himself as its gigantic motu power. At this time, the summer, as we have said, of 1789, Mirabeau, in addition to the jaundice, a disease symptomatic of disorganized liver, was suffering at intervals invasions of fever, the result immediately, perhaps, of excesses, but the indications, probably, of deep-seated disease. In the autumn, an obstinate ophthalmia came in to complicate the treatment, and at a moment, when he was concentrating by its incessant writings and speeches the attention of Europe, and effecting a revolution under the very arm of arbitrary power, he was an invalid, with troublesome and increasing maladies, and rarely to be seen without bandaged eyes. Through 1790, he suffered under the same symptoms, aggravated by others. He was constantly complaining of pains in the bowels, with an equivocal rheumatic affection in the joints, accompanied by severe headache, and the signs of a confirmed gouty diathesis. The month of October was marked by an extremely severe attack of colic or cholera, attributed, of course, to poison, from which, however, he recovered, after a few hours' decisive treatment. Under the professional impression, as it would appear, that all these phenomena were evidence of a bad state of body, arising more from the excesses of his early youth than those of his recent cerebral exertions, he underwent with questionable prudence a course of baths, charged with bichloride of mercury (corrosive sublimate), which diminishing the perspiratory secretion habitual to his constitution, and made now

of so much more consequence by bodily inaction, and the unwise stopping of an issue,* threw additional elements of disturbance on a brain and heart already overtaken. His malady was obviously becoming not one of function, or quality, or chemical neutralization; diseases were now symptoms, not principals; it was the malady of life itself, arising in the mode of life, involving every function of life, sapping its sources with the same action with which it consumed its forces. The day's existence with him, as regards the regretful past, the exciting present, or the mysterious future, was but the day's rapid succession of mental trouble, anxiety, toil, torture, or excitement. There was no normal animal life; exorbitant vital action was exhausting, and by degrees annihilating the means, the tendencies, and the instincts of reparation. A sharer in almost every intrigue and plot of the day, from the most trivial to the most complicated—the author of almost every profound political combination, on which the success of his party turned—a part in every public movement to watch, to support, or to oppose—the ceaseless student of every political character, to use, to circumvent, or to annihilate—his house crowded with visitors and observers, each with his value in a revolution where nobody but the king could be a cipher—his table laden with the multifarious correspondence of all lands, requiring always attention, and often delicate handling—the press informed of every act of his private life, and swarming with attacks not always to be despised or forgotten—pamphlets and weekly journals to be constantly prepared in his study—elaborate speeches or fiery conflicts to be ever and anon sustained in the Assembly, in whose heated and poisonous atmosphere he had to give daily attendance—creditors to appease—mistresses to satisfy—a mob to please—the Jacobins to soothe and deceive—the court to overawe and plunder—the constitutionalists to mystify and use—and, finally, his already huge reputation to aggrandize at any price—that reputation, too, of first orator, first statesman, first demagogue, and first *roué* in an epoch of such things—such were the tasks, sufferings, and labors of this modern Hercules, at the very moment that his sensitive and susceptible frame was festering to death,

* It will be remembered that the empirical extirpation of a fistula has been professionally noted as partly the origin of the softening of the brain, which caused the death of the late Mr. O'Connell.

under the exhaustion of all sorts of excesses, and the Nessus garment of an infamous name! But, as if appetite grew on what it fed—as if the utmost toil only increased the call for more—or, as if the man's avidity or ambition was so uncontrollable that he could refuse nothing that took the shape of credit or profit—it was at this moment, when all his engagements were most pressing, and his health most infirm, that this Titan of labor sought and obtained the office of commander in the National Guards, director of the Department of Paris, and president of the National Assembly. The presidentship was a specially fatal honor; it hastened the death that followed six weeks later. Without sensibly lessening his customary labors, its two sittings daily required an exhausting attendance, in addition to the peculiar engagements inseparable from the office, in those days of demonstrative patriotism.

Dumont, who then often saw him, says that he was suffering constantly from ophthalmia, and that more than once he was obliged to apply leeches, and reappear in the chair with his neck covered with towels to stanch the blood. He was at this time also, as we learn from Cabanis, often visited by severe spasms and pains in the bowels, and by nervous attacks (crispations of the nerves) of short duration, but causing horrible suffering, till in fine this athlete of muscular power became, as we are told, as "nervously sensitive to the smallest impression as a fine lady in a fit of the vapors." Worn down by his sufferings and toils, he was often noticed, during these forty or fifty pre-obit days, to give way to fits of the lowest despondency. His body moved heavily, as if devoid of vital energy, his memory both for ideas and expressions failed by fits; the idea of death entered into all his thoughts, and chased from them even his cherished anticipations of glory. Words of gloom and presage fell from his lips—"I feel I am dying by inches," he once broke out to Dumont. "I am consumed as by a slow fire. I shall die at the stake! 'Twill be only when I am gone that my value will be understood." Doomed himself, his great spirit, in process of disenthralment, occupied itself in prophecies—alas! but too true!—of kindred woes to his country.

Hurrying, however, with his eyes open, to that physical ruin which he designates the "finest invention of nature," Gabriel Mirabeau remained the same man. His approaching "*anéantissement*," as he called it, had influences on him wholly special. Above

all people, an opinion with him had practical effect; once adopted, no doubt stood between him and its kindred action. Four years before he had written, "I am so little certain of living the month after that in which I have conceived a good idea, that I burn with impatience to see it realized, fearful lest it should perish with me, and that time should cut me down before I can bequeath it to mankind; for we ought no more to die than to live without glory. My opinion respecting this world is, that the smallest good, as well as the greatest, is rewarded beyond its worth; and thus I will pass my life in acquirement, physically and morally, knowing well, however, that the game is not worth the candle. But I am tormented by my own activity, and when the candle, burnt out at both ends, shall be exhausted well, it will go out, but it will have given for the smallness of its volume a bright light!" And on this reckless system of extravagant economy, grand in its very recklessness, the aim of the last month of his existence was to devote the remaining scraps of the candle of life to expire in a conflagration!

So late as the 28th of February, with charges of treason and threats of assassination ringing in his ear, he entered the tribune to return, as he said, in triumph, or dead; and, in one of the most energetic of his many speeches, successfully took up the daring position of defiance and opposition to the Jacobin party, which was to mark a new epoch in the Revolution.

On the 22d of the following month, he again passed through an exciting and fiery ordeal. After imposing silence in his last great effort on the "Thirty" conspirators of the Jacobin Club, he now waged open war on the Regency question, against his former friends, the Orleanists. Late suppers with actresses, and kindred excesses, were at this critical moment the agencies to which the dying gladiator had recourse in the intermission of his public life. In the very proportion of his exhaustion, his discouragement, and overwhelming melancholy, were the wretched efforts he made to escape from them in the artificial excitations of the passions. Ever young in the essence of his character, he looked at his great fame with much the same feelings as he looked on the immense sums placed at his command by the court—the feelings of a *roué* possessed for the first time of his fortune. The heroines of the opera, contending for his favors as a homage to the genius of the Revolution,

was a flattery too irresistible to the characterless adventurer who, amid the triumphs of his statesmanship, could hardly yet persuade himself of his higher identity; and till within a week of his death, with direful fidelity to his own principle of vital conduct, did this great man seek, at the price of, perhaps, years of his life, spasmodic accesses of forgetfulness, which would have done no honor to the wildest days of his youth.

These scenes, if we may believe Prudhomme, and the general rumor of the day, were not strangers to the country house which Mirabeau had recently acquired near Argenteuil, about eight miles from Paris. There, on the 27th March (Saturday), he had a return of the severe spasmodic attacks which had recently so often troubled him. Suffering under the malady, weak, and wholly unfit to leave his bed, he quitted his villa to attend the Assembly, which was about to decide on a law for the regulation of mines, on which, so lately as the 21st, he had introduced a project in an elaborate discourse. The question deeply affected the value of the mines of Arzin, and a rumor was prevalent that Mirabeau had received from the proprietors a large sum, fifty thousand francs, for the favor of his advocacy. Although not strictly the fact, for it seems that the explanation of his zeal implies nothing lower than a wish to serve his friend, Comte De La Marck, who is said to have speculated largely in the mines—the well-known facility on pecuniary matters of the politician who had publicly boasted, “A man like me may take fifty thousand crowns, but a man like me is not to be had for fifty thousand crowns,” lent enough countenance to the calumny to secure for the orator a rather unfavorable auditory. Difficulty and dislike, however, were to Mirabeau old acquaintances, in the excitement of meeting whom again, for the last time in public life, he forgot his sickness and infirmity, and, after five successive speeches, the last glorious wreck of his old pertinacity and daring, the murmurs of dislike and opposition ceased to be heard, and Mirabeau carried his measure.

It was his last victory there alive, and dearly purchased. He walked out of the hall death-stricken. Taking the arm of Lacheze, a medical friend of Cabanis, he was conducted to the Terrace de Feuillants. Painting, in his vivid way, the effects of his late exhausting exertions, symptoms more ominous even than painful—and assured, in answer, of the obvious truth that his reck-

lessness amounted to self-slaughter, he replied, “Could one do less for justice, and in so important a case?” A crowd rapidly surrounding the popular idol, each, with French vivacity, requiring personal evidence of notice or attention, Mirabeau, needing repose, and impatient at a homage he was latterly always anxious to escape, requested his friend to disengage him from the crowd, and to accompany him to his suburban villa. He proceeded thither after a dinner marked by more or less imprudence, where he was detained by returns of the paroxysm till the following afternoon, when he returned to Paris. Awaiting Cabanis—whom through a series of misadventures he had not seen for two days—he spent his time in perusing Racine, or good-humoredly discussing with Champfort and some other friends the sort of historic appreciation that then awaited him in the event of death. The literature of the day connects with these discussions a luxurious dinner, marked by excesses, in which female jealousy and poison were no strangers; but the only fact authentically recorded is, that Mirabeau, in the evening, under the advice of Lacheze, hazarded a warm bath, from which he derived sufficient relief to feel encouraged—again, in the pursuit of strong emotions—to betake himself to the Italian opera. Here he indulged, with Lacheze, in the striking criticisms and new projects the scene suggested to his fertile fancy; but he had not remained there long before he had another violent spasm, which, now changing its locality, seemed to involve the whole thoracic cavity. His carriage not being at the spot appointed, he declined to await it, and in dreadful tortures made his way home slowly on foot. Cabanis, who saw him immediately afterward, found him in an agony, with breathing so painful that the whole face was swelled by it, and suffocation seemed imminent. The physician was struck with the desperate condition of his patient. Never did any one appear so evidently marked for death. His emotion revealed his impressions to the acute eye of Mirabeau, who said to him, “I feel, my friend, very decidedly, that I cannot live many hours in anxieties so painful—make haste, for it cannot last. I should feel satisfied if I had discharged one duty which my friend Frochot is acquainted with!” He meant his will, on whose execution, he said, “the lot of many dear to him depended,” and which with much difficulty he allowed to be postponed, that he might be bled and blistered. After these operations, aided, it

would seem, by some saline medicines, he derived so much relief, that during the night, and part of Tuesday, he seemed to progress to assured recovery. He surveyed the improvement with a gratification in some shape peculiar. The "possessor of ten men's life," to use his own phrase, he had a thousand men's love of it. His mind, full of gigantic projects, which his superhuman activity was every day ripening into form and fact, had found at last an arena and an epoch every way worthy of its aspirations. Before him was an undefined and measureless career of ambition and glory; around him, a circle of friends whose affections he prized, and, at least, as warmly returned: in one word, life at this moment offered itself to him as the happiness and immortality of a heaven, while the creed he confided in showed him in death at best but a grave. The conviction then, of his recovery, filled him with delight; and describing as sweet, doubly sweet, the feeling of owing life to a friend, he reveled in expressions of thankfulness and affection. They were, alas! of short duration; for on the Wednesday morning his paroxysms reappeared with a violence which excluded more than the faintest hopes of recovery.

Whatever the discussions of men, Mirabeau was *felt* by them all to be the soul of the Revolution; and the report of his danger, spreading through Paris, carried concern, not to say consternation, to every house. After the worse news of Wednesday's relapse, a sort of common instinct filled the street with successive multitudes, who, barricading each end against vehicles, held it in almost military occupation till his death. They crowded the court of his house; filled the landing-place, and penetrated to the very antechamber, mournful in their silence and respectful in their curiosity. Bulletins were each day frequently issued, seized by a thousand hands, and, with every verbal announcement won in the intervals from visitors to the sick man's chamber, circulated as by electricity through the capital. From every quarter, as by magic, sprung up ardent testimonials of allegiance and affection, like those which posterity, in mingled accesses of ignorance and gratitude, pay to the demigods of races, or the founders of nations. Twelve hundred letters of a varied sympathy passed into his house; and as an indication of their affection, we are told, that one of them pressed on the physician the then vaunted resource of transfusion, and offered, as a means, the blood "to the last

drop," of the respectable writer. It became a law and *bienseance* for all public bodies existing under the Revolution, formally to address their condolence or their inquiries. The king sent twice a day, officially, and more frequently in secret—the Republicans thanking God that he escaped the popularity of a personal visit; and the Jacobins, adopting the popular feeling they alone failed to share, in their meeting of Wednesday, notwithstanding the opposition of Alexander Lameth and Petion, voted a large deputation. Preceded by an immense multitude, the deputies, with Barnave at their head, advanced from their celebrated hall to the house of their traitor chief. The vocabulary of patriotic grief was exhausted in their messages, and, as if there were reciprocal services in their relative situations, Barnave, unexpectedly affectionate and obliging, was met with a greeting and emotion equally warm from his illustrious rival. In the *recalcitrant* Jacobins, however, who courageously declined to do honor to a hand they had seen to a royalist conspiracy against the assembly, the wounded vanity or alarmed susceptibilities of Mirabeau could discern no merit. "I knew them for scoundrels," said he, with bitterness; "but fools I did not think them!" He found his consolation in the affection of the people—"Twas glorious," he said, "to consecrate my life to their weal—it is sweet to end it in their service!"

Toward the evening of Wednesday, all his pains lessened, except the difficulty of breathing; but at midnight he was visited by a return of the old symptoms. A delicate consideration, which formed one of his best traits, prevented him through the night's sufferings from disturbing Cabanis, who was asleep in another room, and who, descending some hours later, found his patient half suffocated, writhing in spasmodic agony, and showing all the phenomena which, while presaging a day of torture and peril, stamped in the visage the obvious and immoveable impress of death's possessionship. A vigorous recourse to local depletion, with the use of musk in frequent doses for the spasms, caused, or at all events preceded some mitigation of his symptoms, without, however, lessening his danger; and we are now brought to a new scene in the imposing tragedy.

Mirabeau, who had consented to the rigid exclusion of his friends, to give himself up more entirely to the resources of medicine, now had them recalled, and, save for the occasional distraction of an illusive hope, addressed himself wholly to the great business

of dying, as he thought became his fame and position. The proximity of death recalled him to his higher self, and with that view clearly before it, his character stopped, as it were, to draw about it all that it possessed of elevated and imposing. To his older firmness he added an exuberance of tenderness and affection—to his former patience, a philosophical ease of resignation and content. All his thoughts seemed to be touched with the solemnity, if not the goodness, of life's holiest epoch; and, as if even nature's great instinct for recovery gave way to the absorbing effort of ambition's culminating achievement, the whole energies of his being were concentrated in the work of resigning it with the composure, the courage, and the dignity of intellectual greatness. "It was a sublime spectacle," says a spectator, "to witness the brilliant exertions of his commanding intellect, and the general equanimity of his deportment, the moment after his severest paroxysms—he but assisted at his own dissolution!" It must be owned, however, that beneath the surface of his death-bed greatness there was concealed an awful tribute to the weakness of all philosophy merely mortal. Cabanis, the friend and physician, confesses that he was pledged to expedite Mirabeau's death by opium, the moment pain should become extreme, and recovery lie beyond a hope. This secret source of strength once touched, Mirabeau descends, as by magic, from his unchristian altitude. When the physician, alarmed at a responsibility which popular suspicion made fearful, timidly proposed the admission of Drs. Jeanroi and Petit, the choler of the dying man became ungovernable. Reminding his friend of the pledge, he exclaimed, "Say or do what you like outside my room—I do not hinder that—but they shall not enter here, if you would avoid receiving from me the last affront. I wish to see nobody; and if I am to recover, you shall have the glory, as you have had the inconveniences!" Vain was the affliction of Cabanis—there was no escape—the patient was inflexible. Two hours later Dr. Petit presented himself at the door, but was compelled to hold his consultation outside. Approving of all that had been done by Cabanis, he treated the disease with bark, as one of intermittent fever, with, of course, little advantage. On the next morning the patient, importuned into submission, admitted Dr. Petit, whom he addressed in words preserved for us by Cabanis—"I am about to speak with frankness to the man who passes as most loving this tone.

I always thought that a man should never elect for physician any one but a *friend*. There is my physician—there my friend" (pointing to Cabanis); "but he is full of esteem for your information, and of respect for your moral character. He has cited to me expressions of yours, which contain, in some sort, the whole revolution and circumstances which prove that, notwithstanding the uncommon cultivation of your intellect, you have still remained the man of nature. I have, therefore, thought that such a man would have become my friend, if I had had the happiness to have encountered him. Hence, sir, my determination to see you!"

The result of the consultation was not encouraging. Appealed to by the unexpired hope of the patient—

"It is possible," replied the physician, "that we may save you; but I will not answer for it."

There was, indeed, no chance; for the pulse was gone—death had already entered the icy hands and arms, and Mirabeau, veiling under the guise of submission the curiosity Petit had not wholly extinguished, remarked interrogatively to Cabanis—

"The doctor is severe, but I understand it." Turning to Petit, he continued, "Behold those who surround me—friends, they attend me like servants—he may well love and regret life who leaves behind him such riches."

He now addressed himself to his will, a work which, on more than one account, was interesting to him. If about him were those he loved, there were others it was necessary for the king's repute, as well as his own, to serve; and as his debts were large, his immediate assets small, and the greater portion of his pecuniary claims on the king depended on contingencies which his death annihilated, it was not till the Count de La Marck had pledged the court to fulfill his testamentary intentions, should his own property not suffice, that he entered on the details of the will. His principal legatees were Madame Le Jay, the adulterous partner of his pleasures and literary speculations; the children of his sister, Madame de Saillant, and his confidential secretary Comps, to whom he left 20,000 francs, with the singular codicil, "I wish that there should be no inquiry addressed to him as to the money he has received or spent for me; my wish being, that his statements should be believed on his word, without examination." He desired to be buried in the garden of his country-house, by the side of his father, and left M. de La Marck and M. Frochot the executors of his will.

The Count de La Marck, a Belgian, better known by his subsequent title of Prince of Aremburg, had been the negotiator between Mirabeau and the court, and now assiduously watched for it—the great scene in which the death of the monarchy was enacting. With him was Talleyrand, who, as a joint supporter of the minister Calonne, in his day of power, was generally supposed to have separated from Mirabeau, on the furtive publication of the *Berlin Correspondence*, but who, though in diplomatic alienation from him in the Constituent Assembly, seems to have preserved all through a mysterious identity of political action. With the death-bed, however, dissolved all coldness, real or simulated, and the invited Talleyrand seizing his friend's hand, with the characteristic assurance, "While one half of Paris are at your door *en permanence*, I have been there thrice a-day with the other half, to offer my sympathies," met a cordial welcome from the dying statesman, who, presenting him a discourse on wills, drawn up for him by a literary acquaintance (Reybaz), under his own instructions, we may suppose said—

"These are the last thoughts the world will receive from me! I make you the depository of this paper—you will read it when I shall be no more—it is my last legacy to the Assembly—it will be curious to hear a man who is no more declaring against wills, after just making his own."

Toward evening the report of cannon awoke him from a doze.

"What!" cried he, starting up in his bed, "have they already commenced the funeral of Achilles?"

His valet supported his head, weary with watching and pain.

"Alas!" said the master, "'tis the strongest in France."

The rector of the parish offered his ministrations.

"Your superior, the Bishop of Autun, has been before you," was the reply; "he reserves to himself the honor of my conversion."

His stomach refused food.

"When the first functionary becomes worthless, the business must soon end. You are a great physician," continued he, to Cabanis, "but there is a greater than you—the author of the wind, that overthrows—of the water, that penetrates and fecundates all—of the fire, that vivifies and decomposes all!"

Lamarck broke into tears.

"It is a touching spectacle," remarked

Mirabeau, "to see a calm and unimpassioned man struggling with a sorrow he can no longer conceal!"

Cabanis related to him that he had been besieged on all sides by a thousand importunities, to try new empirical remedies.

"Where am I, then," he exclaimed, "that old women and quacks pretend to seize hold of me? I make you responsible for all that may happen, and place the responsibility on your conscience."

His valet Teisch, an old smuggler, of singular character and history, approached.

"Well, my poor Teisch," asked the master, "how is it with you to-day?"

"I would, sir, you were in my place."

"I wouldn't that you were in mine."

Through the interval, his sufferings had continued to increase, his breathing had become more difficult, and his restlessness proportionally great. To overpower pain, and lose the consciousness of the worse anguish of reacting despondency, he sought with avidity the conversation of his friends. Inspired by the excitement of their homage, his wonderful intellect, defying death to the last, untouched in "the wreck of baser matter," vindicated in these august dialogues all that startling brilliancy and irresistible empire which marked and immortalized the loftier epochs of his public oratory. There was about it the collected splendor and magnificence of an autumnal sunset.*

After a fit of severe vomiting, he went to sleep. Awakening toward the morning, he asked a female attendant, who alone remained in the room, if he had not dreamed aloud that some murder was going on in the house. Assured to the contrary, he asked for the key of his writing-desk, and the valet being called, was sent for it to the secretary. Meanwhile the morning breaking, he ordered his bed to be moved to the window, to catch the first glimpses of the sun, exclaiming, as he gazed on it, "If that be not God, it is his cousin-german." Then addressing Cabanis in the assured and calm tone of his days of health, he continued, "I shall die to-day! At that point, there remains but one thing—to be sprinkled with perfumes, covered with flowers, and lapped in music, so that I may enter happy the sleep that ends not! Quick! let them be called, that I may be washed, and my whole toilet seen to!"

He had often brooded on death, and (his thought never far from the act) sought to realize to the last his ideal of a great one.

* Dumont's Souvenirs, in Cabanis' "Journal."

Assured, however, that this scheme would renew his paroxysms, he relinquished it, and taking the hand of his physician, wounded, perhaps, that he had been left nearly alone during a part of the night, said—

"My good friend, I shall die in a few hours—give me your word that you will quit me no more—I wish to end the scene under a pleasant feeling!"

Cabanis could not restrain his tears. His patient beckoned him near, pressed his hand, and said—

"Pray, no weakness—worthy neither of you nor of me. It is a moment we must know how to support—you no less than I. Pledge me your word, then, that you will not let me suffer useless tortures. I wish to enjoy without alloy the presence of those dear to me!"

De La Marck coming in, he resumed,

"I have some matters to communicate to both—I have much pain in speaking—do you think I shall be better able at another moment?"

Sinking before their eyes, he was recommended repose, with a suggestion to speak at once.

"I understand," he rejoined: "in that case, be seated—you here, and you there" (pointing to the side of his bed).

He then explained with lucidity his private arrangements, expressed his wishes with regard to the persons he left behind him, and entering on the state of public affairs, in which De La Marck had been all along his confidential adviser, he expressed, in general terms, the truths epitomized in a sentence which has since been celebrated—

"I carry to the tomb with me the hopes of the monarchy, which is soon to be the prey of the factious."

Interested in the designs of England, the country, after his own, ever first in his thoughts—

"That Pitt," said he, "is the minister of preparations; he succeeds by what he menaces more even than by what he does. If I had lived, I fancy I should have given him some trouble."

He concluded a conversation which lasted three quarters of an hour, by calling to him M. Frochot. Taking his two hands, he placed them in those of Cabanis and De La Marck—

"I bequeath," said he, "to your kindness my friend Frochot; you have seen his attachment to me—he merits yours."

He now lost speech, and his eyes, the play of his lips, and occasional kisses, expressed

the overflowing affection with which he accepted the attentions of his friends. His hands, cold and clammy, remained in theirs hour after hour. He was calmly dying, but toward eight the violence of his sufferings recurred. He made a special sign to Cabanis personally for drink; but refusing all that was offered, he made a motion for pen and ink. Supplied, he wrote the one word—"Dormir." He wanted the eternal sleep of opium; but Cabanis, affecting not to understand his meaning, he again took up the pen, and wrote the dubious, but terrible question, "Do you fear, then, that death, or that which approximates it, may produce a *dangerous sentence*?" Still not understood, or, at all events, not obeyed, he wrote the memorable words preserved for us, as the dying man penned them, "While it was thought that opium might fix the malady, it was well not to administer it; but now that there is no resource but in the great unknown, (the phenomenon in connu), why not try it? Can you leave your friend on the rack, perhaps, through days?" The overwhelmed Cabanis made poor answers. Promising laudanum, he wrote for a trivial composing draught. While awaiting it, uncertain whether it fulfilled or not the awful compact, pain and impatience gave back the dying man his speech, and he exclaimed—

"My sufferings are intolerable—I have within me a hundred years of life, but not a moment's courage. You are deceiving me," he continued, as the messenger for the draught failed to return.

He was assured that the most urgent instructions had been sent to the doctors.

"Ah! the doctors!—the doctors!" he exclaimed in agony; and turning to Cabanis, "Were you not my doctor and my friend? and did you not promise to spare me the pains of such a death? Must I carry with me the regret of having confided in you?"

Dr. Petit entered, and Mirabeau became additionally anxious about the opium.

"Swear to me," said he eagerly to Cabanis, "that you will not tell Petit what you are preparing for me!" These were the last words of the great orator.

The draught painfully expected came at last. He snatched the vessel, and drinking it off, turned on his right side, with a convulsive movement, raised his eyes toward heaven, and died!

It was Saturday, January 2, 1791, about half-past eight, A.M., in the forty-second year of his age.

While the dying man was thus vainly

wrestling to be even with the high business he had on hand, there was enacting in the other parts of his house a curious and agitating scene, almost realizing those figments of assassination that had occupied his morning dream. The valet, sent, as we have seen, for the collection of Mirabeau's secret papers, was refused admittance to the room of the secretary, who, locking himself in, asseverated that the key of the secretaire was not there, and that the valet should not be admitted. On a threat of bursting open the door, Comps was heard to fall heavily on the floor, and on forcing a way into the room, he was seen covered with blood flowing from some small wounds in the breast and throat—by his side lying the cause—a penknife, smeared with blood. To the questions of the affrighted household, Comps answered nothing, save that, "for one crime more, it was hardly worth while!" Persisting still not to give up the key, he at first pretended that it was locked in his own secretaire, the key of which he had broken, but when told that a locksmith should be sent for, he recollected, that although he had the key he could not give it up till De La Marek's arrival, before which, however, it was found hidden under the ashes in his grate.

There was here a mystery nobody could fathom. Comps had been for years in the service of Mirabeau; and no small part of his recommendation was the supposed attachment which, already evidenced by two duels, made him ever ready to risk his life in the defence of his master. Had he sold some valuable documents of Mirabeau? This was the opinion of De La Marek and the court. Had he compromised himself in some attempt against his master's health? This was the suspicion of the public. Inquiry was demanded, and the rumor spreading to the surrounding crowd, the officers of justice entered on an inquiry shortly after the break of day. The evidence of Comps only added by its contradictions and falsehoods to the imbroglio. At first, he had thought himself poisoned, and awakening in the morning, found wounds about which he knew nothing. He appealed for his character to the confidence of Mirabeau, who "allowed him to possess valuable secrets, which people feared he would one day divulge." At a second interrogatory, he pretended that his head had been turned from a number of domestic circumstances, which, inducing him to fancy that he and his master were poisoned, made him adopt the idea of

suicide. Fourteen days later, he recalled all he had previously affirmed, especially his insinuations against the friends of his master, and took the nobler ground, that he stabbed himself in affliction for the death of so exalted a master.

Three facts remain, which offer the only additional clue out of the labyrinth. First, Comps, at the time of the decease, had in his possession thirty-eight thousand francs, money confided to him by the court for his master. Secondly, Petion and Camille Demoulins, the Jacobin leaders, had seen in the handwriting of Mirabeau his elaborate plan for annihilating the National Assembly. Thirdly, it seems not very unlikely that though there were natural causes to produce death, that Mirabeau had yet not escaped poison. Are we, then, to infer, that Comps, with the possession of his master's money and political secrets, communicated with the all-active Jacobins?—that his cupidity was excited by the possession of treasures, or his perfidy compromised by the retention of documents?—if not, where is the explanation of his vague charges of poison, his pretences at madness, and his preference of all expedients, even to suicide, to the exposure of the secretaire? We know of none, save in the hypothesis that the secretary, bewildered, was obeying the private orders of De La Marek, who anxiously secured Mirabeau's papers for the court the very instant he had died. And that same instant the news passed from the dead man's room to the multitude, and thence through Paris. Forthwith the shops were shut, the theatres closed, commerce stood still, the business of life stagnated in every channel, and a cloud of mingled incertitude and consternation settled in every face, as if the spirit of the coming carnage, born out of the very dissolution of genius, had already thrown its mighty shadow athwart the soul of society.

The Jacobin Club, early mirroring the movements its leaders could not control, at once decreed to attend the funeral, to mourn eight days, to honor the anniversary, and to have his bust. The representatives of the nation, in their early sitting, heard the event with the incredulity of its greatness, and cries often repeated, "Ah, he is dead!" Barrere, ascending the tribune, in a brief speech, in which oratory was lost in emotion, moved the solemn register of their regret, and proposed their attendance by deputation at the funeral. The deputies, anticipating the sentiment, received it with the universal cry, "We will all go!" The

next day they received the sectional authorities of Paris, proposing the entombment of Mirabeau under the altar of the country, in the Champs de Mars; and after them a numerous deputation of the administrators of the Department, who, through their president, the well-known Pastoret, urged the more welcome proposition, that the new church of St. Genevieve should, in honor of Mirabeau, be converted into a Pantheon. The suggestion was classical; as much in harmony with the opinions of the time, as with the emotions of the hour; it was hailed by acclamation, and even the envious Robespierre was for it, "if constitutional, with all his power, or rather with all his sensibility!"

While national gratitude was thus energetic, popular suspicion was gratified by a public autopsy, which, scarcely satisfactory then, has become less so since. The doctors found traces of inflammation in the stomach, whose lining membrane showed distinct excoriation in the duodenum, a great part of the liver, the right kidney, the diaphragm, and, finally, in the pericardium, which also contained a considerable quantity of a thick, yellowish, opaque matter. In the cavity of the chest was found some watery fluid, and nearly the whole external surface of the heart was covered with coagulated lymph. It was thence officially inferred, under the attestation of ninety signatures (and science recognizes its justice), that there was sufficient cause for death in the phenomena observed in the heart, pericardium, and diaphragm. Vicq D'Azyr, the Queen's physician, who was present at the examination, expressed to the court his opinion, that the symptoms were compatible with the agency either of poison or violent remedies, a judgment which the ineffective character of the treatment makes suggestive of suspicion. The temper of the people, however, made the proof of poison, if unspecific to the criminal, dangerous to many. There was unfortunately no chemical analysis, and hence some countenance is lent to the statements of an authority on other occasions certainly doubtful,* that several persons, some of them physicians, who were present at the autopsy, saw and suppressed through policy palpable proofs of the action of poison.

The funeral which followed next day, swelling almost to the proportions of the national regret, gave to the dead the honors of

Rome's most gorgeous triumphs to the living. Toward the shades of evening, through streets lined for three miles with double tiers of National Guards, backed and surrounded wherever the eye could reach by a decorous and sympathizing population, the spectator witnessed the passage of a stupendous procession—the living body and moving mass of the nation. Troops of cavalry marshaled in slow order; successive brigades of sappers, miners, and artillerymen, flanked by the mutilated veterans of the old French wars, marching by, at last brought in sight Lafayette, the commander-in-chief of the National Guards, surrounded and followed by a brilliant staff.

After these came the fine corps of Swiss soldiers and Prevotal Guards; and then, in solemn order, the imposing procession of the clergy, distinguished by their time-honored canonicals, and heralding the corpse, crowned by the flags of the nation and borne by the brothers-in-arms of the illustrious deceased. Following the coffin and its magnificent catafalque, marched the thousand representatives of the nation, escorted by contrasting battalions of military students and armed veterans, followed in compact and serried masses by the numerous body of Parisian electors, the deputies of the forty-eight sections, the municipal officers of the metropolis and neighboring towns, the ministers of the king, the members of the clubs and patriotic associations, closed up by interminable masses of infantry and cavalry; in one word, two hundred thousand persons in movement, in the congenial gloom of advancing night, and amid a silence broken at intervals by the sad knell of the ancient belfries, the dismal thunder of the minute guns, and lugubrious dirges of military bands, to which the inventions of French musical genius had lent for the hour a potent melancholy in painful keeping with the national sense of bereavement.

Such was the imposing spectacle, beyond all Greek or Roman precedent, which, after three hours' duration, witnessed the transferral of all that remained of Mirabeau to the solemn offices of a Church which, consuming its degrading fall, now lent its crowning sanction to the apotheosis of its great antagonist. The prostitution of the mass ended, and the decent impieties of the funeral oration, more than thirty thousand muskets echoed and re-echoed through the vaulted pile over the celebrated ashes, which, as the mighty multitude in solemn silence laid by those of Descartes, the clock struck mid-

* The "fils adoptif"—M. Lucas Montigny, the editor of the "Memoirs of Mirabeau, written by Himself, his Father, and his Adopted Son."

night! It was indeed the midnight of France! While the nation, anxious and uncertain of the future, falling with the fall of its mighty tribune, its frail security crumbling to dust in the impending hour of peril and crisis, consoled its despair in every conceivable form of popular idolatry—public votes, street harangues, newspaper elegies, hawkers' ballads, and universal homage—the higher and more violent Jacobins, who had ascertained his projects and feared his energies, made small concealment of their gladness. "Achilles dead," cried the earnest Robespierre; "then Troy shall not be taken!" "Why did he not join to Cicero's eloquence Cicero's incorruptibility?" triumphantly asked "the orator of the people," Freron. "People!" screamed out the fanatical Marat, "render thanks to the gods!—your greatest enemy is no more! He has died the victim of his numerous treasons. Stained by a thousand crimes, let his character be covered by a dark veil!"

Vile faction! well may they exult! The hand that held them in check is for ever removed, and their vulture instincts already scent the cherished crimes with which they are so soon to ruin their country! That moment of guilty triumph come, avenging everything they avenge on the mouldering

corpse of their illustrious denouncer even the reminiscences of their fear. One of the last acts of their ferocious despotism was to remove it to some secret spot in an obscure cemetery, that the tomb awarded by the nation might be occupied by the blood-thirsty but now quenched Marat.

Such, then, was the death, and such its accessories, of the last of the Mirabeaus—a man who, by his qualities no less than by the singularity of his fortune, is destined to take his place in history by the side of the Demosthenes, the Gracchi, and the other kindred spirits of an antiquity whose gigantic characteristics he so frequently reproduced. Posterity, which will probably recognize in him one of the greatest geniuses of an age fertile in great men, will only enhance its admiration before the doubts thrown out of the enormous chasms in his greatness. As the hazy masses in the lunar face, those unfathomable phenomena suggest but grotesque images to the ignorant, while increasing admiration in others with their very means of knowledge; so probably will this gigantic character, slighted and unconsidered by meaner intellects, elicit each day more from the comprehensions that can grasp it, a deeper scrutiny and augmenting wonder.

HOPE.

SCHILLER.

THE Future is Man's immemorial hymn:
In vain runs the Present a-wasting;
To a golden goal in the distance dim
In life, in death, he is hasting.
The world grows old, and young, and old,
But the ancient story still bears to be told.

Hope smiles on the Boy from the hour of his birth;
To the Youth it gives bliss without limit;
It gleams for Old Age as a star on earth,
And the darkness of Death cannot dim it.
Its rays will gild even fathomless gloom,
When the Pilgrim of Life lies down in the tomb.

Never deem it a Shibboleth phrase of the crowd,
Never call it the dream of a rhymer;
The instinct of Nature proclaims it aloud—
WE ARE DESTINED FOR SOMETHING SUBLIMER.
This truth, which the Witness within reveals,
The purest worshiper deepliest feels.

From Hogg's Instructor.

THE BANK OF ENGLAND.

THE bank is one of the grand points in the topography of London. Hackney coachmen, cabmen, and omnibusmen, regard it as amongst the chief ports in the voyage of the great city, and draw up here as a matter of course, to set down or take up their human freight. The bank is an immense building, situated a little to the west of Cornhill, and covering an area of several acres of ground. The business now transacted in this extensive edifice was originally carried on in Grocers' Hall, in the Poultry—a building which now would scarcely be sufficient to accommodate one department of this vast establishment. In 1732, the foundation-stone of the present building was laid on the site of the house and garden of Sir John Honblon, the first governor; and the first erection only comprised what constitutes the present centre, with the courtyard, hall, and bullion court. In 1770, the eastern wing was added to the original; and in the five years ending 1804, the western wing, with the Lothbury front, were added. Since that period, there has been frequent additions and alterations made in the building to suit the convenience of the business departments, or to guard against certain contingencies.

During the alarm of 1848, caused by the incoherent threats of several violent politicians in London, a parapet wall was raised all round, above the cornice, and other means were adopted to facilitate defence should an attack have been attempted. The principal entrance is from Threadneedle Street—the front having a centre eighty feet long, besides wings. The view of the bank, as a whole, is not imposing; it is isolated in its position, and in this respect is more favored than many of the splendid edifices of London; nevertheless, the diversity of plans upon which its parts have been built, has denied it that architectural integrity which seldom belongs to any edifice not the idea of one mind.

The front is composed of pillars, &c., of the Ionic order, on a rustic base; and the wings are ornamented with a colonnade. The

back of the bank is in Lothbury, from which a handsome carriage-entrance leads into the outer, and then into the bullion courts.

The Bank of England, although ostensibly a public establishment, and though it does present free access to several of its places of business, is, nevertheless, carefully guarded against general intrusion; and it requires considerable interest to obtain a view of the more private apartments of this truly wonderful and most interesting establishment. We were fortunate enough to have a kind and influential friend, who procured for us an order of admission from a director, and with this carte, which opened the way to the treasures of the greatest commercial country in the world, we presented ourselves at the bank. We were politely led to a little waiting-room by a man dressed in black pants and red vest, and wearing a browny drab coat, with a silver elliptical medal attached to his left breast, bearing the words round its edge of "Bank of England." This person took our admission-card from us, and left us alone for some minutes. At last, another official, similarly attired, presented himself, and, bowing, begged to be permitted to conduct us over the premises. Before we could be permitted to advance into the domains of England's Plutus, the admission-card had to be scrutinized, then initialed on the back by a clerk. The name of the registered visitor, and the number of the party accompanying him, were required to be entered in a journal, with the name of the guide who was to lead us over the various departments; the card was then countersigned by a cashier, and we were at last admissible. Every department of manual labor connected with the business of the bank, save paper-making, is carried on within its walls, as well as the more immediate business of a money-lending, money-changing establishment; and the precision, order, and regularity which pervade the whole mechanical departments, are wonderful illustrations of method and mechanical contrivance. The first room we entered was a

comparatively small one, and lighted, like all the other apartments, from above. Before us, and to our left, were piles of rough-edged, thick, day-book and ledger paper, which ten persons, men, women, and boys, were employed in ruling, cutting, folding, and stitching. The ruling was rapidly performed by a woman and two boys, the process being most ingenious and effective. The pens, or points, which conduct the ink to the paper, are made from thin sheets of brass—several points, divided according to the pattern required, being in one sheet. Those brass-pointed ink-conductors are attached to a wooden cylinder which remains stationary, and alongst which, above the pens, is stretched a piece of flannel. This flannel is saturated with coloring matter, and as the sheet of paper to be ruled passes through two rollers, a part of it is always presented to the points, which, attracting the ink from the flannel, deposits it on the large folios, ruling a whole sheet at once. A beautiful cutting-machine takes the rough edges from those folios after they are folded. The action of this machine, which is perpendicular, is regulated by a gage, which moves the cutter backward and forward according to the will of the person superintending the work. The shavings from the paper are carefully preserved, and sent off to the paper-mill to be returned in folios. The women who stitch the reference and other books previous to binding, sit up in a high gallery, overlooking the ruling and cutting apartment.

From this room we passed into the letter-press printing office, where three steam cylindrical presses and two hand-presses occupied the floor. The machines were splendid ones, from the manufactory of E. & E. Cowper, London and Manchester. Eight persons were at work here, setting up and throwing off, in order to supply the daily consumption of sixty folio volumes, &c., which are required for this great house of business. In passing from the letter-press room we entered a long narrow saloon, in which light shafts and wheels were revolving, and causing to move all the beautiful machinery in operation throughout the whole extent of the building. In this saloon was seated a person, whose sole duty it was to fold stamped letters; and, to judge by the activity of his motions, he had a good man's work of it. On the same floor with this shaft-room is the mechanical work-room, in which a planing machine was putting a smooth face upon a brass plate, and several workmen were busy filing and fitting. Ascending the stairs, which

are made of smooth slabs of purple-colored slate, we next found ourselves in a recessed compartment, at the end of a gallery which was of the same length and dimensions as the shaft-room immediately below. At a bench stood a young man turning over the leaves of a large reference-book, upon the corners of which a precise, methodical, quaint-looking little machine, made regular impressions, rising and falling from point to point of the two radii of a right angle, and numbering a page of the book every time that it reached the inferior culminating point. This machine regulated itself, and marked the pages of great ledgers and journals, from the first up to several thousands, without making the least mistake in the numeration. Whilst we stood admiring this happy contrivance, and wondering at the intelligence which seemed to govern the motions of this little complex combination of brass and steel, which went on thus numbering its own actions, our ears were constantly saluted with the clash and clang of ponderous steel plates, and busy, strong-limbed machinery. A few steps forward, and the turning of our eyes toward the left brought the whole busy scene, of which those sounds were indicative, within the scope of our vision. Eight perpendicular shafts, which communicated their motion to the printing-presses, were whirling and groaning with the wheels attached to them, while sixteen men—black, and grim, and hot—were actively at work printing bank-notes. The machinery occupied the centre of the gallery, the workmen's bench one side, and a range of drying-presses the other. On the bench, which was of iron heated, in order to communicate that necessary quality to the plates used in printing, stood palettes covered with Frankfort black, coarse-looking daubers, made of cloth, in the form of the mullers used by paint-grinders, numerous black rags, and large masses of prepared chalk. Two men were employed at every printing-press, whose duty it is to ink, polish, and place the paper on the plate, the one after the other alternately. As soon as an impression is taken, the steel plate is quickly removed from the press. It is then inked all over, the workman immediately removing with chalk and a rubber all that is on the polished surface. The ink remaining in the engraved parts of the plate, it is again placed in the press, and the impression is communicated to the thin gossamer paper. At one end of this long room there are eight indices corresponding to the eight presses, which are numbered. These register every

stroke of each press, and consequently the number of notes printed by every two men. When a hundred notes have been thrown off by a workman, they are placed in a box, and inserted into a slit above the indicator of his particular press. These are immediately taken away, as if by magic, and a hundred blank sheets of paper appear in their stead. It is impossible to peculate even a sheet of this paper without immediate detection—such is the intelligent supervision maintained by the wonderful steam-engine and the mechanical contrivances pertaining to it. Twenty-eight thousand bank-notes are generally thrown off here daily. The printing-presses are kept in motion by broad woolen belts, which of course become soiled, and are changed every day. These are washed and dried in a little room fitted up for the purpose, and so expeditious is the whole process, that those heavy woolen cloths, several yards in length, can be cleansed and dried in three quarters of an hour. Adjacent to the washing-room is the room in which the paper is saturated with water before being sent to the printers. The paper is remarkably thin, and so porous that two hundred five-pound note sheets will absorb about an English pint of water. As soon as the water has been forced by a hydraulic machine through all the body of the note-paper, it is then taken to be pressed. This is an extremely nice and delicate process, for if the pressure administered was to exceed the necessary amount, the thin sheets of paper would probably become coherent into a solid mass. The pressure allowed is three tons, but the process is gradual and frequent. The water pressed from the paper runs off by a pipe into a reservoir, and the room in which those machines work is perfectly dry and comfortable. In this same room a grinding-machine is constantly preparing ink for the printers. This ink, or Frankfort black, is made from the calcined lees and seeds of grapes, and forms one of the finest and darkest imprints that can be found. Twenty-eight pounds weight of this compost are used by the printers in the bank daily.

All the machines, which we have endeavored to describe in a general manner, are wrought by a steam-engine of ten horse power, which, down in its snug little room, keeps up its constant clatter and motion, revising, optimizing, and accelerating the labors of man, without requiring man's revision. This engine regulates the supply of coal in the furnace, causes the fire to revolve which consumes its own smoke, and governs all the

subordinate and superior motions connected with itself, except filling the hoppers over the furnaces with coal, as if it was possessed of a rational intelligence. The fires are lighted, and the hoppers filled with coal-dust every morning, and then the engine is left to do its own business, until its services are dispensed with in the evening.

Passing from the engine-house, we wended through a little narrow passage, and found ourselves in a spacious yard, the centre of which was occupied by a great iron cage about twenty feet in diameter, having a roof terminating in a point, and surrounding and covering a brick furnace, full of the black ashes of what had once represented the wealth of this vast industrial community. This is the furnace in which the old bank-notes are annually consumed. Our guide informed us that six men are employed during two entire days in destroying the old notes of a year's issue. A Bank of England note is never reissued after it returns to the bank. It is then canceled and destroyed, to make way for the new issue.

A slight description of the mode of conducting business in regard to the issue of bank-notes will enable our readers to see with what ease the circulation of forged notes can be immediately detected, and the number and amount of all those in circulation declared. On every note there is the date of its issue, the sum of its value, the name of one cashier, and the initial letters which indicate the reference-book in which all those particulars are carefully registered. Whenever a note is presented to the bank the corner is torn from it, the number is punched out, it is canceled in the register-book, and then sent down to the library, there to lie for ten years, until burned in the yard during the eleventh. By this means the bank can tell, by reference to its books, how many notes of any date, since the year 1694, are in circulation, and to what amount. The old notes are kept for ten years in the library, and on the eleventh they are destroyed, so that there is a conflagration annually. Some of the bills in the library were once the representatives of immense wealth. One thousand pound notes are, however, the largest in amount that are circulated by the bank. We had a package of five hundred of these in our hands. We had also five or six bills, amounting in the aggregate to four millions and a half of money, one of them alone being for one million sterling.

We now ascended from the subterranean library into the accountant's office, and the

transition was very striking. The latter is a magnificent hall, seated all through with desks, at which about a hundred clerks were busy turning over the leaves of books, and making entries, or comparing notes and preparing them for the archives below. Sixteen Ionic columns run in two parallel rows along the sides of this vast hall. At the one end there is a great clock, at the other is a recess, in which are seated the senior or head accountants.

One of the most interesting and astonishing departments within the whole compass of the banking business was the weighing department, in which, with the rapidity of thought, and a precision approaching to the hundredth part of a grain, the weight of the gold coins are determined. There are six weighing machines, kept working by the same agency which supplies all the mechanical power in the bank, and three weighers attend to these. Rolls of sovereigns, or half-sovereigns, are placed in grooves, and are shaken, one at a time, by the motion of the machine, into the weights. If they are of standard weight they are thrown by the same mechanical intelligence into a box at the right-hand side of the person who watches the operation; if they have lost the hundredth part of a grain they are cast into a box on the left. Those which stand the test are put into bags of one thousand sovereigns each, and those below par are cut by a machine, and sent back to the mint. Between one and two thousand light sovereigns are thus daily sent out of circulation. The silver is put up into bags each of one hundred pounds value, and the gold into bags of a thousand, and then those bagfuls of bullion are sent through a strongly-guarded door, or rather window, into the treasury. The treasury is a dark, gloomy apartment, fitted up with iron presses, which are supplied with huge locks and bolts, and which are perfectly fire-proof. Gold, silver, and paper money ready for circulation, to the amount of twenty-two millions sterling, were in the treasury when we visited it. One of the gentlemen in that department placed one thousand sovereigns in our hand, and at the same time pointed to seventy bags full of gold in the little recess which he had thrown open, making in all the modest sum of seventy thousand pounds. He placed notes to the amount of half a million also upon our palm, which no doubt had its own sensations as the precious deposit trembled on its top. The heads of departments meet in the treasury every evening, and there all the accounts are balanced.

In the issue-room there is a fine marble statue of William III., which seems to preside over twenty-eight money-changers, who are constantly employed taking or giving gold and silver for Bank of England notes, or *vice versa*. The desks of the clerks surround this spacious apartment, and offer every facility for the active business carried on here. In the cashier's room we counted eleven white-haired gentlemen busily signing and countersigning the notes to be issued. The banking department is now carried on in a temporary wooden erection, in consequence of some necessary alterations being made in the usual place of business. Two beautiful elms are growing up through the roof and centre of this banking house, the leaves on those branches enclosed being seer and withered, while those that have been allowed to breathe even the deleterious air of London are bright and green. Eighty clerks were huddled in here, and yet the duties of their office seemed to be discharged with remarkable ability and ease. All the desks were distinguished by particular letters of the alphabet, which referred the person doing business with one clerk to the individual necessary to complete it, without noise or confusion.

The most splendid of all the halls in the Bank of England, however, is the Rotunda, in which all the stockjobbers, stockbrokers, and others, meet for the purpose of transacting business in the public funds, and in which the government dividends are paid. From the floor to the apex of the dome is eighty-two feet, and the stucco work is very beautiful. Fourteen upright cariatides—female figures—stand upon a circular pediment and support the lofty dome, through which falls the softened, chastened sunbeams. The cupola which caps the summit of the dividend warrant office is very rich in alto-relievos, and is also supported by twenty statues, standing two and two by each other's sides. The transfer office is that in which all transactions in the stocks are settled, after parties have agreed to a transmission. He who sells out cancels his claims upon the government, transferring them to the person who may have purchased from him. The consolidated annuity office is appropriated to the sale of annuities, and to the granting of the receipts required by the annuitants before they draw their money. All the transactions of this office are preserved in the presses, the doors of which are numbered and lettered, and indicate the particular entry-books within that have been used since the incorporation of the bank by royal charter in 1694.

Nine families constantly reside within the precincts of the bank—the houses of the secretary, chief accountant, and gate-keeper being situated round the court, into which the Lothbury gate opens. Round the whole extent of the bank, within the parapet-wall, there is a walk, upon which the sentinels pace during the night, lest thieves should attempt to enter. Thirty-four private soldiers and an officer are deputed to this duty every night, each man receiving a shilling, and the officer half-a-crown, and his supper. Besides these soldiers, and the families resident in the bank, there are fourteen men constantly there, day and night, who are perfectly acquainted with all the labyrinthian mazes of the vast building, and who could immediately bring the fire-engines into operation, which stand in the furnace-court. There are about one thousand individuals employed in this establishment. In 1819, there were eleven hundred clerks employed, and twenty-five years previous to that period two hundred and fifty sufficed to discharge the duties required.

The Bank of England was projected by William Paterson, a Scotchman, the original capital being one million two hundred thousand pounds. Since it was incorporated the capital has increased to tens of millions. The

bank corporation are prohibited from trading in any article of commerce whatever, and are to confine their business to the buying and selling of gold and silver bullion, the discounting of bills, and the power of selling whatever goods are pledged to them three months after the date specified for their redemption. The profits of the bank arise from the traffic in bullion and bills, and from the management of the public funds, which is deputed to them by government. The business hours are from nine to five o'clock, and the most rigid exactitude in time-keeping is demanded from all the employees. If an individual is three times late in his attendance, he is called before the directors and reprimanded; if the fault is again repeated, the delinquent receives a gentle intimation to resign his situation. Fifty or more of those employed in this vast national counting-house are constantly enjoying holiday, the period of relaxation extending as the period during which a man has served extends. The direction of the bank is vested in a governor, deputy-governor, and twenty-four directors, who are elected annually at a general court of the proprietors. Thirteen directors, with the governor, form a court for the management of business.

ADIEU TO SORROW.

COME, let us depart from our sorrow,
And hear what each other may say;
Perhaps the bright beams of to-morrow
Will chase all the clouds of to-day!
Contentment is better than riches,
And easier far to be had;
A fig for the cares that enslave us,
To-day we'll be merry and glad.
So, let us depart from our sorrow.

Our ancestors lov'd to be merry,
Nor pined at the darkness of fate;
They sang, and they quaff'd off their cherry
Until every bosom grew great!
They chatted and laughed in their glory,
And chased every sorrow away,
By chanting some comical story
That happen'd in life's early day.
So, let us depart from our sorrow!

From the New Monthly Magazine.

THE CORDELIER OF SISTERON.

BY DUDLEY COSTELLO, ESQ.

INTRODUCTION.

FEW English travelers, unless the conditions of their journey be imperative, are in the habit of taking the *route* from Grenoble to Marseilles, which passes through the mountainous region of Dauphine, and descends from thence to the scorching plains of Provence; for, though this line be the more direct, it is undoubtedly the most tedious and fatiguing. The invalid on his way to Nice also avoids it carefully; and, except by pilgrims to the Vaudois, or an occasional pedestrian to the precipitous heights of Mont Pelvoux, this part of France is rarely visited, and cities once of importance are now comparatively unknown.

Amongst the many places thus forgotten, and neglected alike by industry and curiosity, Sisteron, hemmed in on the frontier of Provence between two torrents—the Buech and the Durance—may be cited as an example. Yet the city of Sisteron can claim an antiquity of two thousand years, from the period of its foundation as the capital of a Roman province to its present obscure condition as the simple *sous-préfecture* of a department. Until within the last few years it gave its name to a see. It still boasts a Romanesque cathedral; an impregnable citadel, once the prison of Prince John Casimir of Poland, renders it respectable in military estimation; and for picturesqueness of position it is almost unrivaled. Moreover, the annals of Sisteron contain much that is of interest, not only to the antiquarian and the historian, but to the general reader;—and it was in searching through these that my attention was first attracted toward the peculiar features of a remarkable trial which took place there about eighty years ago. The circumstances connected with it occasioned a great deal of scandal at the time. It appeared to me that an account of them was worthy of being related; and I have,

therefore, thrown them into the shape of the following narrative.

I.

THE CONVENT OF THE CORDELIERS.

THE religious establishments of Sisteron, as was generally the case with cities of any note during the middle ages, were at one period very numerous: disproportionately so, indeed, to the spiritual wants or worldly necessities of the inhabitants; for although the greater part of them were originally founded from motives of piety or charity, those attributes gradually declined, and the establishments, instead of a relief, became a burden. Absorbing much, and dispensing little, they grew rich as the people became poor, until at length the anomaly presented itself of the wealthiest endowments being possessed by a mere handful of men, the principle of whose association was a vow of poverty and self-denial.

With a population of less than 4000 persons, Sisteron contained no less than fourteen ecclesiastical foundations, including most of the principal religious orders: Franciscan, Dominican, Augustine, and Capuchin monks—"black, white, and gray,—with all their trumpery;" Ursuline, Bernardine, and Visitation sisters; besides priories and abbeys, hospices and maisons de Providence.

Of this number some had happily fallen into decay, others had become merged in newer establishments, but one amongst them, the Cordeliers, or Franciscans, still flourished in the last century, though, at the time when the events occurred which form the subject of these pages, the number of brothers was reduced to only three!

The Sisteron Cordeliers were founded, it is believed, in the early part of the thirteenth century, by the celebrated Raymond Bérenger, Count of Provence, who richly endowed the convent: an example which was fol-

lowed not only by succeeding princes, but by wealthy individuals of various ranks. The family of d'Agout, Seigneurs de Curban, were liberal benefactors; and during the palmy days of the middle ages the coffers of the Cordeliers were filled with gold, and scarcely a year passed without some addition being made to their extensive landed property. Nor were the pious donors satisfied with giving gold and lands only. Women deprived themselves of their richest ornaments, to deposit them on the shrine of St. Francis; and their jewels, their chains, their collars, their rings, and the *frontiers* which encircled their heads, were freely given to be converted to holy purposes, in the shape of censers, salvers, and other sacred vessels. It was this material wealth which, at a later period, so highly excited the cupidity of the Huguenot party when the churches became their prey.

There is one donation, out of the many, which, from its singularity, is worthy of being noticed.

A certain Adam Thibaut, a furrier, who died in 1496, desirous of being buried in the church of the Frères-Mineurs beside his deceased friend Jean Chais, and being, moreover, of a convivial disposition, purchased this favor at the expense of an ample and sumptuous dinner ("bene, decenter et opulenter") to be served in perpetuity on the anniversary of every Fête-Dieu. He left for this purpose a sum of money sufficient to buy a measure of wheat, four-and-twenty bottles of pure wine, and as much mutton, beef, and poultry, as four-and-twenty Franciscan friars could dispose of at a meal.

In what manner the jovial Cordeliers reconciled this compulsory feast with their vow of abstinence, is not upon record; in all probability, they ate the dinner under the stimulus of plenary indulgence, granted of course with a view to the encouragement of future donations; or, availing themselves of the casuistry for which they were celebrated, sided with that party among the Franciscans who, in discussing the question of the entire renunciation of all things, imposed upon them by their rule, contended that the aliments which had only a temporary abode in their stomachs could not be looked upon in the light of possessions.

From what has been said above, it is clear that at the end of the fifteenth century the Cordeliers of Sisteron mustered four-and-twenty strong at least—

Four-and-twenty friars all of a row!

By the middle of the seventeenth century their number was reduced to four, and in the year 1767, when this narrative commences, only three brothers, as I have already remarked, tenanted the convent. The names of these three were Ferrier, Touche, and Laloubière.

Father Ferrier was a weak and infirm old man; dull of intellect, and feeble in health, he was reckoned for nobody in the affairs of the convent, and whether he lived or died seemed to be of no account with the other two.

Father Touche and Father Laloubière were men of a different kind. Both were young, strong and active of body, acute and vigorous of mind. Each aimed at supremacy, and in their secret endeavors to obtain it, hated each other cordially. There were no opinions to cultivate, no parties to create, no friends to canvass; each relied for support on himself alone, and on his own unassisted energies. But, resembling each other in many respects, they were not alike in all. Father Touche had no less ambition than Father Laloubière, but his course was more open and unreserved; he coveted the direction of the convent, and the control of the property which still belonged to it, but he was not of a temperament "to catch the nearest way" to the end he sought; he would win the game if possible, but by fair means only.

Not so Laloubière. Less impetuous on the surface, but of a deeper and darker nature, all means that served his purpose were alike to him. If barefaced power could have sufficed, he would have employed it; but failing that, a sinister and concealed system of action met with his ready and unscrupulous adoption.

As far as priority went, Laloubière had the advantage. He was the "gardien" of the establishment; but although this office carried with it a certain degree of responsibility, it entailed no extraordinary authority. The goods of the convent were in common, and could only be alienated or appropriated by common consent. The right to punish and command—so dear to all men, and not undesired in cloisters—was not amongst the privileges of the *gardien*, who longed for the sway that had been vested in the priors and abbots of former days.

There was also another cause for hatred, which, even more than the desire for superiority, engendered feelings of animosity between Laloubière and Touche.

Though the rules of their order were of

the strictest, the absence of control in an establishment which, for all practical purposes, consisted only of two members, afforded opportunities for relaxation of discipline which neither of them were slow to take advantage of; and, with a freedom which had never been dreamt of by the founder, they mingled with the world, not to visit the sick or offer consolation to the suffering, but to share in its pleasures as far as lay in their power consistently with external appearances.

Out of this violation of their duties arose a circumstance which aggravated the ill-will borne toward each other by the two friars, and led in the end to the most deplorable consequences.

II.

THE BEAUTY OF BONNE FONTAINE.

At the foot of the Rocher de la Baume, and within a stone's throw of the ancient convent of the Dominicans, there stood, at the period we are speaking of, a small village, or rather a cluster of cottages, known by the name of Bonne Fontaine, from a clear, bubbling spring which rose through the crevices of the rocky soil, and sent its tiny stream down the valley, to mingle with the impetuous waters of the Durance. In one of these cottages dwelt a *vigneron* named Antoine Gantelme. He was a widower with an only daughter, and chiefly supported himself during the summer and autumn by the produce of his vineyard and a *jardin potager*, which he sold in the market of Sisteron. In the winter he made nets for the fishermen and sportsmen of the arrondissement, and eked out his means by the manufacture of wooden bowls and spoons, in carving which he showed some ingenuity. His daughter, Madeleine Gantelme, assisted him in his marketing, or rather was herself the sole *marchande*, and, when the season of fruits and flowers was past, her busy knitting-needles supplied many of the wants of their simple *ménage*.

Beauty is no remarkable attribute of the Provençale women in the upper valley of the Durance, but Madeleine Gantelme was an exception to the general rule. The crimson of her cheek, the lustre of her dark eye, the brilliancy of her teeth, her fine oval face and well-formed head, and her tall and graceful figure, rendered her conspicuous among the sallow, sunburnt, freckled, and awkwardly-

shaped maidens who, like herself, were constant attendants at the market in the Grande Place of Sisteron. Here, as she sat amidst her wares, surrounded by the glowing fruits of autumn, a more picturesque object could scarcely be imagined, and many a male customer sought out her stall, less for the sake of the purple grapes, the golden figs, and the deeply-tinted mulberries which she offered for sale, than to have an opportunity of exchanging glances with, or making pretty speeches to, the Belle of Bonne Fontaine, as she was generally called. In addition to her beauty, Madeleine had a very agreeable, winning manner, and her ready smile offered no discouragement to such as strove to get into her good graces. But this *avenante* disposition was united to perfect modesty and propriety of conduct, and when she was twenty years of age—an advanced period of life in Provence for an unmarried girl—her less-favored companions, who had already taken the irrevocable step, began to wonder amongst themselves how it happened that Madeleine Gantelme had not yet bestowed her hand upon some favored lover. They instanced many whom they thought eligible, as, indeed, they were, both from age and station; but the truth was, that Madeleine's heart was still untouched. They predicted the happy lot to several amongst the young men of Sisteron, but she smiled and thought of them no more. It never entered into the minds of her friends to imagine on whom her affections would one day centre; and had they named him, which was next to impossible, the girl herself would have started at the idea as if a scorpion had stung her. Yet the impossible prediction came to pass.

In his quality of *gardien* of the convent, the Cordelier Laloubière was a frequenter of the market to make the necessary purchases for the *jours gras*, which the brothers allowed themselves much oftener than the ordinances of the church permitted. Had these been strictly obeyed, the convent garden would have supplied all that was required; and this he was wont to say was all he needed on his own account; but Father Ferrier was an invalid, certain dispensations had been granted, and, against his will, he was compelled to provide the creature-comforts which he never tasted. An indifferent person who had seen the heavily-laden basket of provisions under which the convent-servant, Jerome, labored when the marketing was over, would have thought that for a sick man the appetite of Father Ferrier was remarkably good.

But it was not merely to cater for the con-

vent-table, or to bargain with the peasants for quails and truffles, that Father Laloubière haunted the market of Sisteron. The bright eyes and blooming countenance of the Belle of Bonne Fontaine had fixed his wandering glances, and the impression which her beauty made was one he did not strive to resist. On the contrary, he encouraged it by every means in his power, until it became an absorbing passion. Day after day he came to the accustomed place, first to gaze at the fair girl, and then to speak to her in soft and persuasive accents, his secret desires being masked by words of religious seeming. In the simplicity of her heart, Madeleine listened to one who appeared to feel a sincere interest both in her temporal and spiritual welfare; and the frankness of her air and the confidence which she began to repose in him were readily misinterpreted into a levity of disposition that promised an easy conquest. Laloubière was one of those men who, having no belief in virtue, suppose that the seductions of vice have only to be named to obtain proselytes. He threw off the reserve which he had at first assumed, and, dropping the language of his profession, dared openly to speak of love. Madeleine could scarcely believe her ears.—What! this pious and benevolent man, a member of one of the most rigid orders of the clerical profession, bound alike by his special vow and his general obligation as a Christian minister, to mention a theme so profane, and, in this instance, so revolting! She could not trust herself to reply to him, and for a time her embarrassment was misconstrued by Laloubière as her previous frankness had been. In plainer terms he repeated his wishes and urged her to compliance, but he was not suffered now to remain any longer in doubt. As soon as she could find words to give utterance to her scorn and indignation, she broke through the timidity which had restrained her, and it was well for Father Laloubière's reputation that no one was near when she did so. Like a scared wolf he slunk away, but, with the tenacity of the animal he resembled, resolving still to accomplish the base purpose on which he had set his soul.

It was with a heavier heart than had ever before throbbed in her bosom that Madeleine took her way that afternoon to the vesper service in the cathedral, whither she always repaired to pray at the altar of Notre Dame de Pomeris before she went back to Bonne Fontaine. When she left the church her brow was once more serene, though a shudder involuntarily passed through her frame as

she paused for a moment on the bridge over the Durance and gazed in the direction of the Cordeliers' convent, in the midst of the Champ l'Abbesse, without the walls of Sisteron. The dark thought of danger weighed for a moment on her mind, but like an ugly dream it vanished as she moved hastily onward to the peace and security of her home.

III.

THE PEYRIMPI.

FATHER LALOUBIERE had reckoned, and not without reason, on Madeleine's silence with regard to his unhallowed proffer. Her modesty secured his immunity as completely as her participation in his guilt would have done. He persisted, consequently, in renewing his addresses whenever the moment seemed favorable, but he was invariably repulsed with coldness, for contempt had now come to her aid in the place of anger. When first she heard his degrading proposal, astonishment at the magnitude of the sin was the strongest feeling in her mind; nor was this diminished on after consideration; but, allied with it, was a sense of the baseness and unworthiness of the man who could make religion the cloak of his wicked designs. As often as he returned to the subject, she gave him some brief answer referring to his sacred calling, by doing which she sought to shame him into reflection on the duties he neglected and the mission he perverted. But this course wrought no change in his purpose, though it awoke a feeling of irritation, which, at every repulse, gradually deepened into a desire for vengeance, and he inwardly vowed her ruin, as much from motives of resentment as from the desire to gratify his passion. For a long time he meditated by what scheme he could manage to get her into his power, and finally decided upon appearing to abandon his pursuit, the better to lull her into security; for, as a means of defence, Madeleine had latterly associated more constantly than before with her companions of the market, and always went in their company both in leaving and returning to Bonne Fontaine. But in ceasing to annoy her by his presence, Laloubière never lost sight of her for a single day. He became a secret spy on all her actions, hovered about her path when she was least aware of it, and might often have been seen in the dead of night watching beneath her window, had any one besides himself been stirring at that hour. Nor did he confine his measures to personal *surveillance*.

By cautious inquiry he came to the knowledge of all her father's affairs, what were his pursuits, who his employers, who his relatives, and in what part of the country they resided. Arrived at this knowledge, he formed his plans accordingly.

Having learnt, amongst other things, that a married sister of Antoine Gantelme, named Philippine Berulle, who resided in the canton of Ribiers, about three leagues from Sisteron, was in a declining state of health, he forged a letter in such handwriting as peasants use when they have acquired the art (and he found no difficulty in doing so, for there is little difference in the form or style of their letters), and caused it to be conveyed to Bonne Fontaine by a strange courier, who was passing through toward Barcelonnette. It contained an urgent request that Madeleine would go over to see her aunt, whose malady, it stated, had much increased; and as she had always been a great favorite with his sister, old Antoine very readily consented to her departure. He would himself have accompanied her, but a summons to assist in getting in the vintage on the estate of a proprietor who lived at St. Symphorien, in an exactly opposite direction, wholly prevented him. To neglect his work to gratify his feelings was not a luxury permitted to Gantelme—as, indeed, it rarely is to people of his class; and accordingly, on the following morning, when the mists were slowly rising from the river, and everything promised a fine October day, the father and daughter separated on their different missions.

The thought of her aunt's illness had, for the moment, obliterated all other considerations, and, her habits of life having accustomed her to make long distances alone, she never thought of the necessity for a protector on the journey. Besides, it was broad day, the market-people and the *vignerons* were all abroad, the way was well known to her, and the houses of many of her acquaintance were scattered along her route. After skirting the walls of Sisteron and passing beneath the rocky heights of Chambranon, she pursued the cross-road by Le Virail, which borders the Buech, whose full clear stream swept rapidly past to join the Durance, glancing gaily in the sunlight as the ripple caught it. A short distance from Le Virail the road quitted the banks of the river and wound up the steep side of the Montagne du Collet, for her aunt did not live in the bourg of Ribiers itself, but in a small hamlet called Fraissinné, distant from it about a league. To reach

Fraissinné it was necessary that she should pass through a narrow gorge, which was rendered remarkable by a lofty rock of singular form, which towers over the valley. It was called in the language of the country the *Peyrimpi*, a corruption of the term *Pierre impie*, which name had been bestowed on it as the traditional fortress formed by nature in which the Saracens took refuge at the period of their latest warfare in Provence, somewhere about the close of the tenth century. Without reference to the creed of the invaders, the people generally looked upon the name as significant of the commission of some forgotten crime, and it would not have been an easy matter to induce any of them to pass after dark, alone, through the gloomy glen.

It is probable that Madeleine shared in the common feeling, but at this hour of the day, and the object of her journey nearly accomplished, she scarcely gave it a thought. The picturesque character of the scene, where the bare and lofty rocks in the foreground contrasted forcibly with the rich autumnal vegetation in the plain beyond, gave her even a pleasurable sensation, and with a light step and a cheerful spirit she hastened to soothe the couch of sickness. Could she but have known that her evil genius was watching her footsteps as she passed the *Pierre impie*, the place might well have inspired her with dread! She passed, however, and unmolested. With the sun shining above his head, the watcher seemed to feel that the eye of God was upon him. Besides, he had calculated on her return at a later hour. Fool! to think that it needs a shrouded sky to perpetrate a deed of evil, or that to the Avenger of Wrong the darkness of midnight is not clear as the blaze of noon!

IV.

THE RESCUE.

A WALK of about three-quarters of an hour from the *Pierre impie* brought Madeleine to the hamlet of Fraissinné. She proceeded directly to the cottage of Philippine Berulle; but when she tried to lift the latch, she found, to her surprise, that it did not yield to her efforts. She tapped at the door, but all was still; louder, but no one replied to the appeal. What could be the matter? Had her aunt's illness made such rapid progress that her husband should have left her to seek for medical advice, or for the last consolations of the church? Or was she,

ndeed, dead, and his absence caused by the last errand on which the watchers of the sick, amongst the poor, are sent?

With a trembling hand and swimming eyes she repeated her endeavors to gain admission; then listened breathlessly at the door, but nothing stirred. She tried the lattice, but it was fast, and she rattled it in vain. At last, from a neighboring cottage—the hamlet contained only three or four—an old woman, whose day-dream was disturbed by a fancied noise, came out, and recognizing Madeleine, inquired the reason of her being there when all the villagers were gone, except herself, to the grape-gathering at the Château de Noyers?

"What has brought you over to-day?" she asked.

"A message from my aunt," replied Madeleine, "to request me to come and see her. Is she not sick, Mère Gastinel?"

"Not worse than usual," replied the old woman; "if anything, rather better, seeing that she is able to go to the vintage and earn a day's work—and a good dinner at the château," she added, spitefully.

"Thank God for that!" exclaimed Madeleine. "But who, then, could have sent me a letter in her name, begging me to visit her without delay?"

"I know nothing about letters," replied Mère Gastinel, crossly; "all I know is, if you hadn't made such a noise I should have gone off into a sweet sleep," and, with these words, she was hobbling off to her cottage, when Madeleine's voice arrested her.

"I am sorry," she said, "to have disturbed you, but it was not my fault; and I am afraid I must disturb you still more, for I am rather tired with my walk, and I want a little rest and a cup of water before I set off home again. You will let me step into your cottage, will you not, Mère Gastinel?"

The crone gave a grumbling assent to this request, not inspired thereto by any motive of hospitality, for she was of a niggard nature and unsocial disposition, but from being aware that, if she refused so slight a boon as that, which Madeleine asked, her neighbor Berulle would hear of it, and resent the unkindness to her niece by withholding from her many gifts which now she freely bestowed. A seat on a wooden bench, and water from the well, which Madeleine drew herself, were all she offered, complying thus as literally as she could with the tired girl's petition.

Under the circumstances of the case, and as it would most likely be late before the villagers returned from the Château de Noyer,

Madeleine decided that she would not prolong her stay at Fraissinié further than was absolutely necessary. There was no information to be got from Mère Gastinel; so, when her thirst was slaked, and her fatigue, as she thought, overcome, she left a message for her aunt, and, with mixed feelings of annoyance at the fictitious summons and of thankfulness that her first apprehensions had not been realized, turned her steps in the direction of Sisteron.

Had she not been somewhat vexed at the reception given her, Madeleine might have remained where she was till her aunt came back, in which case she would have passed the night at Fraissinié; but the impulse to return prevailed over every other inclination, as if, indeed, it were true that our purposes are controlled by fate.

She had not proceeded far on her homeward journey before she found that she had overtaken her strength. The heat of the sun was excessive, and when she again entered the narrow gorge of the *Pierre impie* she was not sorry to rest once more before she ascended the rugged path.

There was one near her whose dilated eye and quick pulse denoted with what anxiety he had been watching for her return; how eager he was to seize his prey; and yet what a struggle was in his breast between the desire to do evil and dread of the consequences which might attend the act. It was even a relief to him when he saw his intended victim pause, and seat herself beneath the shadow of the fatal rock, as if the delay were necessary to enable him to summon up courage for the dark deed he meditated.

The subject uppermost at this moment in Madeleine's thoughts was the false message that had been brought her. It seemed so purposeless a jest that she was at a loss to conceive why any one should have taken the trouble to practice it upon her, and was equally at fault with respect to the person with whom it had originated. She ran over the list of her acquaintance, but came no nearer the mark. Her friends were all peasants, who had neither time nor inclination for such an amusement. Of a nature wholly unsuspecting, it never once entered into her head to associate the Cordelier Laloubière with the trick, or imagine that worse was intended than the trouble she had been put to.

While she thus pondered over the matter a feeling of drowsiness, caused by the heat of the day and the length of her walk, insensibly stole over her; her perceptions became more

and more indistinct, her hands fell listlessly by her sides, her head sank down upon the bank on which she was resting, and in a few minutes she was fast asleep.

From the place of his concealment Laloubière intently watched her. The artifice he had employed had succeeded better than he had expected, but there were reasons why he still deferred the completion of his villanous scheme. He was chiefly influenced by the fact that the longer she slept the later would wane the day, and that in the greater obscurity he should have her more in his power than even now. Though he reckoned little on any one passing, owing to the loneliness of the spot, he felt assured that, as the shadows lengthened, the chances of interruption diminished, and he wistfully marked how steadily they stretched across the glen.

Meanwhile Madeleine slumbered in the sleep of innocence. Her dreams were of bright skies and beautiful flowers, of merry dances and joyous faces, which chased each other through her brain lightly as the breeze of summer passes over the young grain, changing its hue with every breath.

On a sudden, in her sleeping thought, the heavens seemed overcast, a heavy gloom arose between her and the sun, a storm rent the sky, and from the midst of the darkness there issued forth a voice, crying, "Madeleine, awake!"

She started, and awoke. It was no dream: there was a living reason for that terrible cry. The lips were still parted that had given utterance to it; and, bending over her, she beheld the gaunt figure and sinister countenance of Father Laloubière.

With a scream of affright, the dreadful truth now rushed to her mind; she tried to rise, but an iron grasp pinioned both her hands.

"It is in vain to struggle, Madeleine," said the friar, in a voice broken by emotion; "I have you at last."

She writhed—she strove. In spite of his strength she gained her knees, and in that attitude implored him in piteous accents to spare her. The granite rock above her might sooner have yielded to her prayer.

"Have mercy upon me, oh God!" she cried—and mercy was sent.

A blow, heavy as if a thunderbolt from heaven had fallen, smote Laloubière on the head. "Scélérat!" rang in his ears, in tones he fancied he recognized, but his senses fled with the thought, and he fell heavily to the ground.

Madeleine looked up; her deliverer was a tall, powerful man, with strongly-marked

features, quite unfamiliar to her. By his dress, she might have supposed him one of the shepherds from the Collet, for he wore the broad hat and dark brown cloak which was their common custom; but in his voice and manner was something that rendered that idea improbable. He gave her but short time for scrutiny.

"This is no place for you to remain in," he said; "whither are you bound?"

"To Sisteron—that is, to Bonne Fontaine, just across the Durance," answered Madeleine, faintly.

"That is my way too, at least as far as Sisteron," replied the stranger; "lean on me; no harm shall happen to you again to-night. Have you strength to walk so far?"

"Any distance," exclaimed Madeleine, with reviving energy, "so that I leave behind me this horrible place."

The stranger turned once to look at his prostrate foe, who still lay without sense or motion.

"Better so altogether," he muttered, "though not by my hand. But," he added, turning away, "he will revive only too soon."

With this he strode away from the glen, accompanied by Madeleine, who hung upon his arm. It was night when the stranger left her at the door of Gantelme's cottage, into which, however, he refused to enter, to receive her father's thanks.

"Before long," he said, "I trust we shall meet again."

In Madeleine's prayer of thanksgiving that night how earnestly was a blessing invoked on the head of her deliverer!

V.

THE LOVERS.

THE stranger kept his word with Madeleine. On the following evening, on her return from market, she met him at the entrance to the little village. She told him how grateful her father was for her preservation, and urged him to return to the cottage that he might hear from his own lips the expression of Gantelme's gratitude; but she was no more successful than on the previous night, and, ascribing his repugnance to motives of delicacy, forbore to press the question.

The current subject of discourse in the market-place of Sisteron that day had been an account given by the convent-servant, Jerome, of how the good father had been attacked by robbers on the previous night, while crossing the mountain of the Mollard

on his way home from performing a work of charity in a distant village, and how, after being cruelly treated by them, he had only succeeded in dragging himself to the convent door at an early hour that morning. Madeleine had heard all this, but, fearful of the consequences of making any accusation against a churchman, discreetly held her peace, though it was only by keeping a strong command over herself that she was able to refrain from declaring all she knew when her peasant companions expressed their horror at the wickedness of attacking so excellent a man. The reason which kept her silent abroad had operated in the same degree at home, and to her father she only spoke of a fright she had experienced, from which he afterward inferred that her rescue was from one of the same band of ruffians that had fallen in with Father Laloubière.

Of the events of the evening before the stranger said nothing, beyond a mere allusion to the general topic, which he admitted having also heard of, and the conversation soon took a different turn. He spoke little of himself or his pursuits, and Madeleine was unable to gather in what part of the country he resided; but on all other subjects he was sufficiently communicative, and greatly interested his hearer; nor did they part without his having exacted a promise from her to meet again. He had reasons, he said, for not wishing to be abroad in the daytime, but Madeleine might safely trust in his word, that her confidence in him should not be abused, which, after the service he had rendered her, she felt no disposition to doubt. The truth is, Madeleine felt already a great attraction toward her unknown friend, and the scruples she might otherwise have allowed to weigh with her were silenced by a newly-awakened feeling.

To pursue its course would only be to follow a well-known track: it led, as may readily be supposed, to a declaration of love on his part, and on hers to a timid but happy acceptance.

Yet there were many things which rendered this happiness less perfect than it might have been.

In the first place, Madeleine knew nothing of her lover's condition or family; all that he had told her was, that his name was Gabriel Tronchet, that he was unmarried, and that there were circumstances which rendered it unadvisable, if not impossible, for him to marry in that part of the country. There were obstacles at present in the way which time might remove, but what these

were he did not reveal. His secret, whatever it was, seemed of no common importance, and its effect on his manner was often painfully visible to Madeleine, who, while she fondly loved him, felt something of dread mingled with her love, and never ventured to question him on subjects which he had forbidden her to speak of. But for this she would have asked him why he had never crossed her father's threshold, or made himself known to Antoine Gantelme, and why they had only met in the secluded valley of the Riou, with the stars for their sole witnesses? All these questions Madeleine checked as often as they rose, though, in doing so, a consciousness of something wrong oppressed her; but her misgivings were of slight duration, while her love grew daily stronger.

In the meantime, what had become of Father Laloubière?

Had the unexpected termination of the adventure in the gorge of the *Pierre impie* changed his intentions with regard to the beauty of Bonne Fontaine? Had he ceased to think of her as an object of pursuit? Had he secretly promised to amend his life, and confine himself henceforward to the duties of his profession?

Not at all. Passion still burnt in his heart, and the fiercer for being checked. He was perplexed in the course he meant to take, but resolved on following that only which promised him revenge. In the convent, also, the designs which occupied him after his recovery tended little to the glory of God. He still aimed at becoming sole master there, and every day brought with it an accession of ill-will toward Father Touche. The communication between these two, never frequent, became by degrees less and less so, till at length it almost ceased altogether. But Laloubière did not on that account lose sight of his colleague, whom he was always seeking occasion to injure. He had latterly been informed by Jerome, the mere creature of his will, that Father Touche was in the habit of absenting himself every evening from the convent, whither he never returned until a late hour. He accordingly set this man to watch the movements of his brother Cordelier, and it was not long before he obtained such information as roused not curiosity alone, but emotions of a graver nature. A vague suspicion, which had more than once haunted his mind when the recollection of the events at the *Pierre impie* came back to his memory (and they were rarely absent from it), that the tones of the voice which he had heard

were not unfamiliar to him, grew rapidly now into a real belief, and he resolved to satisfy his doubts without delay.

Alone, therefore, and armed with one of those knives which most Provençals carried at that time when they went abroad, he followed Father Touche as he left the convent one night in November, about a month after the adventure in the glen.

Although the night at first was dark, it was not sufficiently obscure to prevent Laloubière from tracking his colleague's footsteps, while at the same time he was himself concealed from one who had no suspicion of being dogged. Father Touche, on leaving the convent, took the path that ran by the broad *gravier* of the river, and, passing beneath the walls of Sisteron, pursued his way as far as the Porte de la Saulnerie, where he crossed the high pointed bridge of one arch which there spans the Durance. He then followed the high road leading to Digne until he came to a narrow path which took its upward course along the flank of the Rocher de la Baume, in the direction of the mountain-village of Vilhosc. Laloubière kept him in view until he came to the gorge of Entrepierres, through which the Riou forces its foaming torrent, and there, the moon having risen in the meanwhile, perceived that he was joined by a female figure which rose from the foot of a *Calvaire* placed at the intersection of the cross-roads. Laloubière was too far off to distinguish more of the female beyond the fact that she was tall and wore an ample cloak to protect her from the *bise* which came up the valley. He paused while a hurried greeting took place between the pair, who then slowly descended the course of the stream, to where a small amphitheatre of rocks securely sheltered them. To follow them by the route which they had just taken would have exposed him to their observation, and, as there was light enough now on the mountain side, he cautiously crept along until he reached the amphitheatre, where, concealing himself behind a fallen rock, he was near enough not only to satisfy both eyes and ears, but even to touch the persons he was watching, if he had but stretched out his arm.

It was not long before he saw and heard enough, and more than enough, to satisfy him. The female was Madeleine Gantelme, and Father Touche his rival in love as in ambition! There was no doubt now to whom the rescue was owing, whose hand had dealt the blow which robbed him of his prize; and now he remembered, what he

might well have recollected before, that Father Touche had relations at Ribiers, whom he was in the habit of visiting. In returning to the convent across the mountain he had accidentally been the saviour of Madeleine. What had since happened Laloubière could only guess at; but the present intimacy which he witnessed left little for conjecture. But how, he asked himself, did it chance that the virtuous maiden who had so indignantly rejected his own advances, chiefly, he imagined, on account of his being a churchman—how came it that she listened with no unwilling ear to one who was in precisely the same predicament? Was the more comely favor of the younger Franciscan a reconciliation to sin? Was this the boasted purity of the Belle of Bonne Fontaine, the pattern of village virtue? He did not know that Madeleine was herself ignorant altogether of the position of her lover—that he wooed her under a fictitious name—that the care with which he avoided coming into contact with her father, and the reason why he met her only at this hour and in this remote valley, arose from the fear of its being discovered that he was one of the Cordeliers of Sisteron.

The lovers limited their walk to the small space which formed the amphitheatre, sometimes stopping in one place for minutes together when the subject on which they spoke was more than usually animated. On one of these occasions they paused directly in front of where Laloubière was concealed; he had already caught snatches of their conversation, but now he became master of the whole argument. It had been evident to him that Father Touche was preferring some urgent request which Madeleine hesitated to grant.

"What you ask of me, Gabriel," she said, "is impossible. I am my father's only stay—his only comfort. To leave him without a word of explanation would break his heart. I could not fly from his roof and let him learn that I had left it for a stranger. But why, Gabriel, should you continue to be a stranger to him? He is poor, but he has no desire to see me mated beyond my station. If want of wealth, if poverty even, prevent you from speaking, be content, he will offer no obstacle. He will tell you that with health and youth, with a good heart and an active mind, you are on an equal footing with all who have to make their way in the world. It is to the labor of his own hands he owes the little he possesses; he will not deny you the chance of succeeding as others do."

"That, Madeleine," returned Gabriel, "is the least of my fears. I have sufficient for present comfort, and the future shows me a prospect far from gloomy. But here I cannot attempt the course of life which is open to me elsewhere. I have told you that a mysterious fate hangs over me while in this country, like the thunder-clouds which so often cap the mountains above us. To reveal the secret at Sisteron, in Provence, anywhere in France, would bring down destruction on my head, and blast all our hopes of happiness. Nay, do not tremble and gaze upon me so wistfully. It is for no former crime that I fear to declare myself to the world's eye; the hand of justice might grasp mine, yet cause me no terror; if I am guilty of any sin, it is that of loving you—of loving you," he repeated hastily, as if he feared he had spoken too plainly, "and still keeping you in ignorance of the events of my past life. But believe me, dearest Madeleine, an imperious necessity compels me to this silence—at least, for the present. A day will come when you shall know all. In another land nothing prevents our union, no penalty awaits on the open declaration of our mutual affection, while here—to make it known would be death for my portion and misery for yours!"

Madeleine could not restrain her sobs; her lover had never before entered so deeply into the subject. The mystery which enveloped him was one she could not penetrate, but there was hope also in his words; and she clung to hope in despite of fear. True love admits of no impeachment by threatened danger.

There was one within hearing at that moment who could by a word have cleared up all the mystery. Why did he refrain from uttering it? Had he issued from his place of concealment, and called his rival by his conventual name, exposing to Madeleine the sacred tie which bound Father Touche to a life of celibacy, there could have been no doubt as to its effect on her. It must at once have dis severed the connection between them. But how would it have advanced his own projects? His rival would have been spared the commission of the heaviest crime in the dark calendar of religious offences, and would still have remained to thwart him in his conventual sway. Laloubière's revenge would have had no savor if less than destruction had awaited the object of it. There was one moment when the frenzy of his passion had all but prompted him to sacrifice her who was the cause of his present

suffering. His hand was on the haft of his knife, and one movement of his arm would have laid her dead at her lover's feet. But his own life would have probably paid the forfeit of his act—either in the immediate struggle, or in subsequent denouncement if Father Touche survived him. With a strong effort, therefore, he mastered these several impulses, and waited to hear the issue of the interview before he decided on his ultimate plan.

"Madeleine," continued Gabriel, gently, kissing away her tears, "be comforted. What I ask of you is not, after all, the sacrifice you imagine. I would not for worlds separate you forever from a father whom you so tenderly love. A few months at the most would intervene before you met again. I have the means which will enable him to join us hereafter, wherever it may happen that our destinies fix us. The Lake of Geneva, whither I go in the first instance, is not so remote but a few days' travel will bring him to your side, and when he witnesses our happiness he will be happy too."

"But may I not at least take leave of him if—if I consent to your wish?" faltered Madeleine.

"To do so in person would frustrate all my scheme. You shall leave a letter behind you explaining all that can be told. I will phrase it so as to quiet his least alarm."

"And how, Gabriel," asked Madeleine, averting her head as she spoke,—"how and where is the marriage rite to be performed?"

Gabriel kept down a strong emotion as he answered.

"There is," he said, "at Gap a priest who is devoted to me, and who will unite us in the dead of night. I am able to procure horses, and a mountain ride of five hours will take us there. The next day will see us across the frontier, and once in Piedmont our journey to the Canton de Vaud will be safely accomplished."

But Madeleine still hesitated—still reverted to her first theme; and again her lover had recourse to the arguments he had already urged, with others apparently, which, now that they were again in motion, Laloubière could not overhear. What they were seemed, however, at last to be successful, for again they embraced, and Gabriel's lighter step and clearer accents showed that he had gained his point. They once more passed Laloubière's hiding-place as they directed their steps toward Entrepierres, and the Cordelier learnt that the evening of that day week had been fixed for Madeleine's flight.

When they left the amphitheatre he took no further heed of their movements, but remained fixed to the spot in deep meditation. After a long interval he came forth from the valley, and slowly returned to the convent. Whoever had seen him then would have read an unalterable purpose in the rigid compression of his lips and the vindictive expression of his gloomy eyes.

VI.

THE CORDELIER'S REVENGE.

It has been shown that Father Laloubière was not a man to content himself with a petty measure of revenge. It was in his power to baffle the whole of his rival's project, by laying an information of Father Touche's intentions before the vicar-general of the diocese, and then surprise him in the act—a course which would have ensured the punishment of perpetual imprisonment; or he might at once go to Antoine Gantelme, and tell the *vigneron* of the step meditated by his daughter. But these he deemed paltry expedients compared with what he had in view. Blood was in his thoughts. To remove Father Touche by a violent death, which should leave him free of all suspicion, and once more restore him the chance of regaining possession of Madeleine, was now his settled resolve.

Of a close and mistrustful disposition, he would rather have been the sole agent of the deed, but there were reasons why he needed an assistant. He had long since sounded the depths of Jerome's heart, and knew that it was not want of inclination, but want of courage, which restrained him from the commission of crime. He was one who might easily be induced to follow, though he lacked the boldness to lead; and with the prospect of gain, his covetous soul was at the command of the best bidder. To Jerome, therefore, Laloubière revealed so much of his plan as suited his purpose. The rents of the convent had recently been paid, and these, together with what was previously in the treasury-chest, amounted to a considerable sum. The chest was secured by three different locks, of which each of the fathers kept a key; so that, to obtain access to it, it was necessary a general agreement to open it should exist. It was easy to obtain possession of the key in Father Ferrier's keeping, but not so that of which Father Touche had charge. Laloubière, consequently, sought to prevail with Jerome, whose oppor-

tunities were greater than his own, to steal the latter, promising him, as his reward, one-third of the contents of the chest. To this proposition the fellow made no scruple, as he apprehended little risk in the act; but he hinted to Laloubière his fear of the discovery of the robbery. There was a way, Laloubière replied, to prevent all chance of discovery. If the convent were set on fire when the two other Cordeliers had gone to their beds, the building might be consumed with its inmates, it might be supposed that all had perished, and thus no clue to detection would remain. Laloubière and Jerome might escape as soon as they had laid the train and secured the money; horses would be in readiness (he reckoned on those of which Father Touche had spoken), and by their means themselves and their plunder would be saved. It was a plausible scheme, and as it involved no positive *voie-de-fait*, for which he would have wanted resolution, Jerome finally agreed to aid in its accomplishment.

As a preliminary step, and under the pretence that the wood for the winter's consumption could not be kept dry in the convent *chantier*, Jerome busied himself for several days in storing up a large quantity of fagots in the corridor where the three Cordeliers slept. They would not only be better to burn, Jerome said, when questioned about it, but be much more conveniently placed for the use of the reverend fathers. Father Touche was indifferent on the subject, as he dreamt of wintering somewhere else; and Father Ferrier was glad of anything that promised increased comfort with less trouble.

The night which Laloubière fixed upon for carrying out his plot was that agreed upon for the flight of Madeleine and her lover. How to keep Father Touche from leaving the convent that evening was his chief difficulty. It was absurd to suppose, even if he went to his dormitory, that he would lie down to rest; his time would be wholly occupied with preparations for his departure; and if the fire broke out while he was awake, he would certainly escape. As no natural means were likely to aid him, Laloubière be-thought himself of artificial ones. He was well known to the only *pharmacien* in Sisteron as an occasional purchaser of medicine for the ailments of Father Ferrier, who was too feeble to apply for them himself; and to him he now went with a tale that the invalid could no longer sleep as he had been accustomed to do, and praying that a liquid opiate might be prepared for him, which Laloubière

would be careful to administer in the prescribed doses. The apothecary, who had no misgiving of the uses to which it was to be applied, freely did as he was requested, and Laloubière was now armed with an instrument which placed the life of the man he hated securely in his power.

To mask that hate he assumed a more friendly demeanor toward Father Touche; and the latter, unwilling to part in bitterness, even with such as he, relented somewhat from the austerity which had for some time marked his intercourse with the elder friar. They took their meals again in common, and with a greater show of sociality.

The day so anxiously expected, both by the murderer and one of his victims, at length arrived, and the three Cordeliers were seated at their evening meal, which they always ate at an early hour. Wine was before them, in separate bottles, and each had a motive for drinking freely. It need not be said that Laloubière had drugged the liquor of his two companions; that of Father Ferrier slightly, as a little would suffice to stupefy him, while in the bottle of Father Touche he had poured the remainder of the narcotic mixture. It might poison, or only stupefy him, he cared not which; the flames would keep the secret in either case. Its effects were soon visible on both. Father Ferrier began to show symptoms of drowsiness; the stronger constitution of the younger man strove against the violence of the dose, but finally yielded, and, pleading fatigue, (which he attributed to the excitement of the day, and thought would yield to a brief interval of repose,) Father Touche quitted the refectory for his chamber. A quarter of an hour afterward, when Father Ferrier had been led up stairs by Jerome, Laloubière's ear was glued to the door of Touche's dormitory. He heard him breathe deeply, and his eyes gleamed with exultation. From that sleep he should never awake!

But he was not content with oral evidence, he would satisfy his eyes also. He therefore gently opened the door and stole into the apartment. Father Touche was stretched upon his *grabat* in all the helplessness of medicated sleep. Laloubière looked round the room. On the floor was a small valise, prepared for traveling. In a half-opened drawer he perceived a bag of money knotted up for convenient removal. He took possession of both, and then descended with Jerome to the muniment-room of the convent, where the treasure was kept. The chest was opened, its contents abstracted and carried to the stable,

where the horses procured by Father Touche were standing ready saddled. The money was deposited in the saddle-bags, the valise strapped on, and then the last wicked act of these wicked men remained only to be accomplished. Jerome, carrying a lantern, led the way, closely followed by Laloubière. They drew near the pile of fagots, when the Cordelier, taking the light from his companion's hand, desired him to go to his dormitory, and fetch paper to kindle the flames. Some books were there, he said, which Jerome could easily find by feeling for them in a particular place; they would answer the purpose. The servant departed. Laloubière watched him till he entered the room, and then, with the speed of thought, setting fire to the pile, which needed only a candle beneath it to put it in a blaze, stole noiselessly to his dormitory, and double-locked the door with the key which he had previously left outside. So quickly was this done that Jerome, who was busily searching for the books, and making some noise himself in the attempt to find them, never heard the door close, nor was aware of the fact till he stumbled against it on his way out. He tried to open it, but in vain;—he called through the keyhole to Laloubière, thinking that an accident had caused its being shut, but the only reply he received was the loud crackle of the blazing fagots in the corridor. He threw the books upon the floor, and dashed at the door with all his might, forgetting that it opened inside; suddenly he remembered this, and tried with both hands on the handle, and with one foot pressed against the wall, till he bent himself almost double, to drag it open;—it resisted all his efforts. He then ran to the window and threw open the casement; it was barred so narrowly that in vain he tried to force himself through to drop to the ground outside, at the risk of breaking his neck. In his despair he shouted for help, but the dormitories of the convent, which stood alone in a vast enclosure, were so situated that they looked out only on the *gravier* that borders the Durance, whence no assistance could come. Presently he thought he heard a noise below; he listened; it was the clattering of horses' feet. Laloubière was galloping from the convent.

Meantime the flames extended; a thick smoke now filled the corridor and sought a vent through every cranny; the open window afforded a relief from the suffocating smell, and Jerome clung closely to the bars, but he felt that it would not be long before the fire reached the room in which he was

thus caged, like the Cordeliers in the adjoining dormitories. They, happy in their fate, were stupefied with opium and unaware of their danger; he, on the other hand, was not only conscious of his peril, but knew himself the guilty cause of it. With what anguish of heart, with what miserable protestations, he promised a life of repentance if spared. The echoes of his cries were the only answer to his insane supplications.

The conflagration now raged; the old timbers of the corridor had caught; a broad furnace of flame swept it from one end to the other; the doors peeled and crackled, the windows at each extremity were burst open, and, rushing high into the air, a pyramid of fire announced to the startled citizens of Sisteron the devastation that was at work in the convent of the Cordeliers.

There were others besides the inhabitants of Sisteron who witnessed the scene from a distance. Two travelers on horseback, a man and a woman, were crossing the bridge of the Durance in the direction of the road to Gap at the moment the flames broke forth. The female reined her horse in, and uttered an exclamation of mingled fear and astonishment, but a brief and impetuous reply, rendered only in a hoarse whisper, chided the delay; they turned their horses' heads to the north and were soon out of sight, while from the southern gates of the town the people flocked to render assistance. How little did one of those riders know who was her companion; how little did she dream that the man she loved was perishing in that terrible blaze!

Yet such was his dreadful fate! Stupefied by the drug he had swallowed, Father Touche was suffocated in his heavy sleep. His body was found on the stone floor of his dormitory calcined to a cinder, while, by one of those accidents which defy analysis, the fire spared the apartment in which Father Ferrier lay. Jerome too was saved, but by the aid of those from without, who planted ladders against the windows and broke away the bars which kept him prisoner. He was borne to the ground almost delirious with fear, and those who heard him utter denunciations on the head of Father Laloubière at first ascribed what he said to the ravings of madness. But it soon became apparent that he was consistent in his accusations, and as he grew calmer he told his story with all the steadfastness of truth. Collateral circumstances came in aid: Laloubière's empty chamber, which was entered when the fire was quenched, and the open chest in the

muniment-room, made it clear to the authorities that a great crime had been committed.

The manner of Laloubière's escape was told by Jerome, though he could not explain the disappearance of both the horses. He accounted for it, at last, by the fact that each was loaded with the stolen property. But the watchers on the citadel had, by the light of the conflagration, noticed two mounted figures on the bridge at a most unusual hour, and the roused dwellers of the faubourg had heard the clatter of horses' hoofs on the road to Gap. The key to the direction which Laloubière had taken was now given—but who was his companion? A guide, probably, whom he had hired. At all events the truth would speedily be known, for a party of mounted *gendarmes* was instantly sent off in hot haste to pursue the fugitives, and bring them back to Sisteron.

A friar and a peasant-girl, but little used to riding, were not likely to outstrip the winds in their flight; nor is it any wonder, therefore, that they had barely traveled three leagues before the *gendarmes* were close behind them. In spite of the circumstances, which counseled as little conversation as possible, Madeleine felt surprised at the brevity of speech of her companion, and at the rare intervals at which he spoke; but the deception, which was favored by the darkness of the night, and the similarity of height and costume between Laloubière and her lover, was not removed. Some notable occurrence was necessary to enlighten her.

They had paused to breathe their steeds, after a sharp ascent, when Laloubière turned his head and listened. He heard the measured yet rapid tread of trained horsemen, and the violence of his nature found vent in a passionate exclamation.

"Malediction!" he cried; "les gueux sont à nos trousses. Sauvons-nous!"

He spurred his horse at a bank as he spoke, but the animal, unwilling to leave the high road to which it had been bred, refused to take it, and Laloubière was thrown heavily over the crupper. Madeleine, frightened at the accident which followed, dismounted hastily, and rushed toward the fallen man. But she had scarcely reached him before she found herself surrounded by *gendarmes*, the leader of whom called out loudly to surrender in the name of the king. Their surprise was great when they found a woman in company with the object of their pursuit; but it was nothing compared to hers when she discovered by their exclamations that her fellow fugitive was the Cordelier Laloubière.

The villain was only stunned by the fall, and his first effort, when restored to consciousness, was to attempt to fly; but the strong grasp of two gendarmes held him as if in a vice, and prevented his stirring. He fiercely interrogated them as to the cause of his detention.

"Of what am I accused?" he demanded, "that you dare to lay violent hands on a brother of the holy order of St. Francis?"

"Of robbery, of incendiarism, and of murder," was the stern reply of the leader of the gendarmes.

"Add also," said another of the party, who had charge of Madeleine, "of violating his religious vow."

"Il y a bien assez pour le faire pendre," observed a third, by way of comment.

Laloubière remained silent under these accusations, but Madeleine, recovered in some degree from her first astonishment, exclaimed,—

"Gentlemen, I take Heaven to witness I am guiltless of all complicity in the crimes of this monster. I knew not till now who was my companion."

"A likely thing," said the brigadier; "a woman travels at night with a fugitive from justice, equipped like him for flight, and yet knows nothing at all about him!"

Madeleine wrung her hands and wept in bitterness of spirit.

"I am rightly served," she murmured, "for abandoning my father. But to be thought the accomplice of a robber, a murderer—it is too horrible! Gracious God! how has all this happened? What can have befallen Gabriel?—how came this wretch to be his substitute?" Then, pointing to Laloubière, she said to the brigadier, "This man can, if he will, prove my entire innocence."

"A la bonne heure," replied the officer; "but it must be in a court of justice. We can't take depositions on the high road at midnight."

The party now moved toward Sisteron, a gendarme riding on each side of the prisoners. Madeleine abandoned herself to despair at the shame which she feared awaited her. Her maiden fame forever blighted, her neglect of filial duty exposed, her seeming association with the guilty friar—all these things weighed upon her brain, and stung her almost to madness. Laloubière gave no outward demonstration of his thoughts, but preserved an inflexible silence, until the party came close to the town, when he desired to speak to the brigadier.

"You have accused me," he said, "of murder. Of whose death am I supposed to be guilty?"

"Of that of Father Touche, one of your brother Cordeliers," replied the gendarme. "The servant Jerome has confessed that you drugged him with laudanum, and afterward fired the convent, hoping to burn all within it. But le bon Dieu has permitted that only one should perish. Father Touche is the sole victim."

"Father Touche then is dead?" cried Laloubière, in a tone of exultation. "Say that again."

"Why should I repeat a fact only too certain? He is dead, I tell you—murdered by your contrivance."

"You hear that, Madeleine," said Laloubière, turning to the unfortunate girl.

"I do," she replied; "and grieve to think any man should die in such a manner, though I know nothing of him."

"Indeed!" said Laloubière, significantly. "Did you ever know any one of the name of Gabriel?"

"Gabriel!" she almost shrieked; "what of him?—can you speak of him?"

"Enough for your purpose," answered the Cordelier, with cold malignity. "Listen, Madeleine: Gabriel and Father Touche were the same person!"

Madeleine gazed fixedly on the speaker for one long moment, and then her agony burst forth in a wild cry. The dreadful secret was now revealed. Her lover was the murdered Cordelier. There was no hope left on this side the grave.

The party had just reached a rocky height bordering the Durance, where are still to be seen the remains of an ancient bridge, carried away some centuries ago by the fury of the swollen river, which, confined in its bed at this spot, rages below at a distance of upward of a hundred feet of sheer precipitous descent. The gorge is known throughout the country by the name of the *Puits d'Enfer*.

Madeleine's cry startled the horse of the gendarme who rode beside her nearest the precipice. The rider reined him up, in momentary fear lest he should swerve. That instant decided Madeleine's fate. Supporting herself on the flat board which had rudely served for a stirrup, she rose from her seat, and extending her arms toward heaven, while on the night-air floated the words, "Adieu! mon père!" she plunged over the parapet, and, before the party could leap from their horses to gaze after her, her man-

gled body was swept away by the rushing waters of the Durance!

Antoine Gantelme did not long survive his daughter; but he died in the firm belief of her innocence: a belief in which there were very few to share; for people love rather to cherish the memory of a great crime than suffer charity to efface it.

Laloubière was tried and convicted on the evidence of Jerome. He was sentenced to death, but mysteriously disappeared from prison before the day appointed for his execution. It was whispered through the country that the authorities had connived at his escape, at the instance of the vicar-general of the diocese, who sought to avoid so great a scandal on the church as the capital punishment of a Franciscan friar.

This was partly true. Laloubière was saved from death to be transferred to a convent of his order at Coni, in Piedmont, where he suffered imprisonment for more than twenty years. That dreary interval, however, awoke in him no repentance; the wickedness of his heart was unchanged.

The French revolution, which swept away so many monastic establishments, even beyond the territory of France, released Laloubière, then a man of sixty years of age, and cast him again upon the world. He found his way to Lyons, became affiliated with the most violent of the revolutionary clubs, was afterward a terrorist of the most sanguinary hue in Paris, and finally met his well-deserved fate on the Place de la Grève.

The bloody knife of justice never severed the head of a viler criminal than that of the Cordelier of Sisteron.

LOVE AND DEATH.

BY SIR E. BULWER LYTTON.

O strong as the Eagle,
O mild as the Dove!
How like and how unlike,
O Death and O Love!

Knitting Earth to the Heaven,
The Near to the Far—
With the step on the dust,
And the eyes on the star!

Interweaving, commingling,
Both rays from God's light!
Now in sun, now in shadow,
Ye shift to the sight!

Ever changing the sceptres
Ye bear—as in play;
Now Love as Death rules us,
Now Death has Love's sway!

Why wails so the New-born!
Love gave it the breath.
The soul sees Love's brother—
Life enters on Death!

Why that smile the wan lips
Of the dead man above?
The soul sees Death changing
Its shape into Love.

So confused and so blending
Each twin with its brother,
The frown of one melts
In the smile of the other.

Love warms where Death withers,
Death blights where Love blooms;
Death sits by our cradles,
Love stands by our tombs!

From the *Britannia*.

DEATH OF THE QUEEN DOWAGER.

ADELAIDE LOUISA THERESA CAROLINE AMELIA was the eldest daughter of George Frederick Charles, the late reigning Duke of Saxe Meiningen, and the Princess Louisa Eleanor, daughter of Christian Albert, Prince of Hohenlohe Langenburg. She was born on the 13th of August, 1792, and married the late King William IV. (then Duke of Clarence) on the 11th of July, 1818, and by that sovereign (who died on the 20th of June, 1837,) she had issue two daughters—the Princess Charlotte Augusta Louisa, born and died on the 27th of March, 1819, and the Princess Elizabeth Georgiana Adelaide, born on the 20th of December, 1820, and died March 4, 1821.

Her late Majesty was the eldest of three children (two daughters and a son), left by the late Duke of Saxe Meiningen at his death in December, 1803.

The Duke of Saxe Meiningen, by his will, left the guardianship of his three children and the administration of the ducal estates to his pious and estimable widow; and by her prudent management the little state of Meiningen escaped the troubles to which the larger principalities were exposed by the invasion of the French under Napoleon, so that she and her people remained in undisturbed possession of domestic peace. While in the enjoyment of this tranquillity, her daughters, the Princesses Adelaide and Ida, were educated, with a strict regard to religion and morals, in the usual branches of polite and useful learning. From earliest childhood the Princess Adelaide, in particular, was remarkable for her sedate disposition and rather reserved habits. The greatest portion of her time was devoted to her studies; and though perfectly cheerful with her intimate companions, she took little pleasure in the gaities and frivolities of fashion. Even when arrived at more mature years, she manifested a strong dislike to that laxity of morals and contempt for religious feeling which had sprung out of the French revolution, and infected almost all the courts in Germany. Thus favored by Providence, the

little court of Meiningen was distinguished by its purity of principles, and its two princesses became objects of admiration from their exemplary conduct. Their chief delight was in establishing and superintending schools for the education of the lower classes of the community, and in providing food and raiment for the aged, helpless, and destitute. The Princess Adelaide, above all, was the life and soul of every institution which had for its object the amelioration of the condition of her fellow-creatures, and in this school it was that her Majesty first imbibed those exalted qualities of mind and heart which, in a more extended sphere, have since been so happily displayed for the advantage and happiness of the British people. The late Queen Charlotte, it is said, had long entertained thoughts of securing the hand of the Princess Adelaide for one of her sons, the virtuous and unostentatious habits of that Princess having reached the ears of her Majesty at the English court. In 1818 there arose a feeling of anxiety that the unmarried princes should contract matrimonial alliances to relieve the nation from the prospect of "a broken lineage and a doubtful throne." The Dukes of Clarence and Cambridge were the first to acquiesce in the views of the Government and the private wishes of the aged Queen. The name of the Princess Adelaide of Saxe Meiningen, as the future wife of the Duke of Clarence, then, for the first time, came before the public.

A correspondence had previously taken place, and on the 19th of April, 1818, a royal message was delivered to the Houses of Lords and Commons, announcing the consent of the Prince Regent to the marriage of the Duke of Clarence and the Princess of Saxe Meiningen, and the Duke of Cambridge and the Princess of Hesse, and asking a suitable pecuniary provision from the House of Commons. The Government proposal was agreed to in the Lords, but rejected in the Commons by a large majority. Viscount Castlereagh then informed the House that he believed he might say that the negotiation for the mar-

riage of the Duke of Clarence was at an end. The Duke of Clarence, however, was induced by his friends to revoke his determination, and the consequence was that the correspondence with the Princess of Saxe Meiningen was renewed.

The Princess Adelaide of Saxe Meiningen, accompanied by her venerated mother, the Dowager Duchess of Saxe Meiningen, arrived in England from Germany on the 11th of July, 1818, circumstances having prevented the Duke of Clarence from repairing to the Continent. The marriage took place on the 13th (two days after her reaching the shores of her adopted country), at the palace at Kew, but from the indisposition of Queen Charlotte (then suffering from her fatal illness), it was conducted in a private manner.

The Duke and Duchess of Kent were at the same time remarried according to the rites of the Established Church. Both the brides were given away by the Prince Regent, the Archbishop of Canterbury performing the ceremony.

The Duke and Duchess of Clarence, after passing a short period at Clarence-house, St. James's, proceeded to the Continent, and remained during the winter and the spring of the following year in Hanover. On the 27th of March, 1819, (the day succeeding the birth of Prince George of Cambridge,) the Duchess of Clarence was prematurely delivered of a princess, which only lived a few hours. This misfortune was imputed to the Duchess having caught cold through walking in the gardens of the palace.

The health of the Duchess was very unsatisfactory, and, at the recommendation of her physicians, she, at the close of April, left Hanover, for Meiningen, visiting her relations at Gottingen and at Hesse Philipsthal on her way. Her reception by the people of the duchy was most affecting, and demonstrated how dearly they cherished the unostentatious kindness of the Princess when resident amongst them. Shortly after ward she removed to the dowager duchess's beautiful villa at the baths of Liebenstein. The waters had a beneficial effect on her health, and being anxious to return to England with her royal husband, she set out in October on the homeward journey. She suffered considerable fatigue by the journey, occasioned chiefly by the badness of the roads; and on her arrival at Dunkirk she miscarried, and was again taken seriously ill. In consequence, her arrival in England was necessarily delayed, and on landing at Dover, so weak was her Royal Highness that she could

not bear the fatigue of traveling to London by short stages. At the suggestion of her medical attendants, she accepted an invitation from the Earl of Liverpool (then Lord Warden of the Cinque Ports) to take up her residence at Walmer Castle, until she had sufficiently recovered. The duchess stayed there about six weeks with the royal duke, who never left her during her illness, and then proceeded to Clarence-house, St. James's, to spend the winter, Bushy being then under a thorough repair. As soon, however, as that house became tenantable, her Royal Highness removed thither, to enjoy that tranquillity and freedom from fashionable life which constituted her principal delight.

On the 10th December, 1820, she gave birth to a daughter at Clarence-house. The birth was premature, but the infant promised to live, and was baptized Elizabeth. The hopes of the succession in that quarter were soon destined to be blighted. The princess expired, after a few hours' illness, on the 4th of March, 1821. The Duchess of Clarence was so deeply afflicted at this calamity that fears were entertained for her own life.

The Duke and Duchess of Clarence, in June, 1822, again visited Germany, and in March, 1825, returned thither to participate in the festivities in honor of the marriage of the reigning Duke of Saxe Meiningen (only brother of the duchess) and Princess Mary of Hesse at Cassel. The last visit the late king made to the Continent with his amiable consort was in 1826.

The domestic life of the duke and duchess at this period is thus described by Dr. Beattie, who was for some years his Royal Highness's private physician:—

"To his illustrious partner, whose many and exalted virtues his Royal Highness so duly appreciates, no man can possibly evince more delicate and uniform attention. There are not, perhaps, of the present day, two personages, of similar station, in whom the virtues of domestic life are more pleasingly exemplified. With those excellent qualities of mind and heart so eminently possessed by the royal duchess, it is not surprising that her royal highness should have won and should retain the esteem and affection of her illustrious consort. His mind is fully alive to their vital importance as regards his present happiness, and to the influence they must exercise over his future prospects."

Early in 1827, the death of the Duke of York occurred, which placed the Duke of Clarence in the position of heir presumptive to the throne, shortly after which a jointure of £6,000 to the Duchess of Clarence was

agreed to by the House of Commons. This object had scarcely been effected when a sudden change in the Government, by the succession of Mr. Canning to the helm of public affairs, brought the royal duke forward still more conspicuously to public view, his royal highness being placed at the head of the Marine Department, with the revived title of Lord High Admiral, after that dignity had laid dormant, and the duties of the office been discharged by commission for the space of 127 years.

On the 27th May, 1828, the Duchess of Clarence embarked at Woolwich to meet her mother, the Duchess (Dowager) of Saxe Meiningen, at Calais, and to conduct her to England, where she remained during the summer. In the month of September, the same year, the Duke of Clarence resigned his situation as Lord High Admiral, and the Duchess of Clarence and her husband, after leaving the Admiralty, resided in retirement chiefly at Bushy-park. It was during their residence there, in June 1830, that tidings of the death of George IV., at Windsor Castle, were brought to the royal duke and duchess by the late Sir Henry Halford.

On the 30th of July the King and Queen arrived at the Royal Pavilion at Brighton, and it was during the sojourn of the court at that marine palace that their Majesties visited Lewes. Sir John Shelley, then M.P. for the town, delivered a congratulatory address from the inhabitants to their Majesties. The King, after a rather lengthened reply, in reference to Queen Adelaide said:—"Among the many favorable circumstances under which Providence has called me to ascend the throne of this country, there is none for which I feel more grateful, upon which I set a higher value, than that it had previously been my happy fortune to be married to an individual so excellent in every amiable and good feeling. In this country character finds its way forth in the world, and is always known. I must take the opportunity of speaking what I am most sincerely convinced of—that her Majesty, who sits before you, possesses every estimable quality calculated to give worth and lustre to her exalted station."

The last Ministerial act of the Duke of Wellington's Government was the introduction of a bill by the Lord Chancellor Lyndhurst providing that, in the event of a posthumous child of King William and Queen Adelaide, the Queen Dowager should then be its guardian and regent during the minority; and it gave a corresponding power to

the Duchess of Kent during the minority of her daughter.

On the 1st of August, 1831, the Queen assisted her Royal Consort in opening New London-bridge, and on the day following a bill received the royal assent granting in the event of Queen Adelaide surviving the King a provision of £100,000 per annum for life. Bushy-park and Marlborough-house to be assigned as residences for her Majesty during life. Her Majesty accompanied the King on this occasion to express her thanks to the two Houses of Parliament for the ample provision which they had made for her maintenance in the event of her widowhood, and on the bill receiving the royal assent she rose and made an obeisance three times to the two Houses.

On the 8th of September in the same year the coronation of the King and Queen took place at Westminster Abbey. In accordance with the wishes of their Majesties, the ceremonial was shorn of much of the pageantry which distinguished that of the previous sovereign.

In the month of July, 1834, Queen Adelaide embarked at Woolwich for Germany, for the express purpose of visiting her venerable mother, the Dowager Duchess of Saxe Meiningen, whose health at that period began to decline.

In 1836, when political animosities were acquiring renewed strength, and a more violent struggle of parties for political power was approaching, the conduct of William IV. and Queen Adelaide was beyond all praise. At his Majesty's Court were met men of all parties in the state. Integrity of character was the chief recommendation to a share in that English hospitality which distinguished his crowded banquets; while his Majesty's Royal Consort herself, on behalf of the ladies of England, secured public respect and affection by protecting them from the intrusion of even doubtful morality.

The spring of 1837 was one of mourning for the court. The Queen Adelaide received the distressing information of the demise of her venerated mother, whose health had been on the decay several months, dying on the 29th April, having attained the age of sixty-eight years.

Before the Queen had recovered from that bereavement, the fatal illness of the late King commenced; symptoms which indicated organic disease of the heart became perceptible, and of a nature never likely to yield to medical treatment. In reference to the conduct of that illustrious lady during the try-

ing illness of the late King, the late Archbishop of Canterbury, at a charitable meeting held shortly after the decease of the King, said that "For three weeks prior to his dissolution, the Queen sat by his bedside performing for him every office which a sick man could require, and depriving herself of all manner of rest and refection; she underwent labors which I thought no ordinary woman could endure; no language can do justice to her meekness, and to the calmness of mind which she sought to preserve before the King, while sorrow was preying on her heart; such constancy of affection, I think, was one of the most interesting spectacles that could be presented to a mind desiring to be gratified by the sight of human excellence." As is well known, the King expired in the arms of his exemplary and faithful partner. The shock was severe, yet the irreparable bereavement was borne by the sorrowing Queen with the greatest resignation and fortitude.

At the funeral of the King the Queen Adelaide was present in one of the royal closets during the solemn service.

The Queen Dowager, then in very delicate health, repaired in the autumn to St. Leonard's-on-Sea, in company with the late Princess Augusta, and there passed the winter, and while there her health became thoroughly restored. On the 3d of October, 1838, having been advised by her medical attendants to resort to a more genial climate for the winter, her Majesty embarked at Portsmouth, on board the *Hastings*, 74 (Captain Loch), for Malta, attended by the Earl Howe, the Earl and Countess of Denbigh, the Earl and Countess of Sheffield, and a very numerous retinue, for that British dependency.

At this period it had long been a matter of complaint with English residents and Protestant travelers passing and repassing Malta that, from want of accommodation, they were almost entirely debarred from the privilege of attending public worship, on account of the destitution of church room. The Queen Dowager saw the destitution which had so long been deplored, and with the most magnanimous Christian feeling determined to supply the want by the erection of a new church. The first stone was laid by her Majesty on the 20th of March, 1839, and the sacred edifice was at length completed at a cost of £15,000, exceeding by one-third the amount of her Majesty's original grant. The dimensions of this church ex-

ceed those of any of the modern churches in London; the length of the area being 110 feet; breadth, 67 feet; and height, 45 feet.

In October, 1847, her Majesty, accompanied by the Duchess Ida, Prince Edward, and the Princesses of Saxe Weimar, embarked on board the *Howe*, 120, at Portsmouth, for Madeira, and on her way to that island put in at the Tagus, and was there received by the Queen and Prince Consort of Portugal. On the morning of April 2, in the following year, the Queen returned to Spithead, visited the Queen and Prince Albert at Osborne, the same night sleeping on board the *Howe*, and the succeeding day returning to London. The succeeding winter was passed at Bentley Priory, near Stanmore, which she had taken of the Marquis of Abercorn, and which has proved her last earthly home.

It must be perfectly needless to remind our readers of the charitable disposition of her Majesty, but we may, perhaps, surprise them when we mention the enormous extent to which the royal benevolence was carried. For many years past her Majesty's regular contributions to the charitable institutions of the country have amounted to upward of £20,000 annually, while her private charities have always been on a most profuse scale of liberality. With a warm recollection of her illustrious husband's profession, the Queen Dowager invariably contributed very largely to the naval charities of the country, and, in a great measure through her royal beneficence, a new church for seamen of the port of London was recently erected near St. Katherine's Docks.

It would be impossible to enumerate in detail the various charities dispensed by this excellent woman; but we have, happily, a short way to the gross amount of them. In the twelve years that have elapsed since the death of her Royal Consort, the Queen Dowager has bestowed, for the promotion of religion, the advancement of education, or the alleviation of distress, the whole of her income, leaving only the necessary expenses of a very economical establishment. With that single exception, twelve hundred thousand pounds have been disbursed in public or private benevolence; for we believe we speak on good authority when we say that the Queen Dowager has left no property, beyond the sums receivable for some insurances on her life.

From the Dublin University Magazine.

CHINA AND THE CHINESE.

IF, as has been said, America is an empire without a past, China may well be called a country without a future. The actual antiquity of its polity, its unchanging laws, primitive language, and aged, stationary, stagnant literature, the institutions, manners, usages, and even the costumes and very aspect of the people—all tend to impress the stranger with something like a conviction that the new panorama before him belongs to a period of the world which is long gone by. There seems to be nothing young throughout “the flowery land” except the vegetation in early summer; and even the children, and maidens tottering on cramped feet, look, if not old, old-fashioned. This impression of antiquity is the first which China is likely to make on a European, and we think that, in most cases, it will haunt him to the last, surviving a more intimate acquaintance with the Celestials, and continuing long after he has become habituated to bird’s-nest soup, shark’s-fins stew, mandarin duck, and samshoo. So singular a trait might awaken our curiosity in regard to any people; but on approaching the topic of China, every feeling which derives its influence merely from imagination must give place to more positive and pressing considerations. When we reflect upon the vastness of the Chinese empire, upon its amazing resources, and think that the multitudes of its population offer a new world of consumers to our waning trade, while we may in return give them a higher civilization, better health, and true religion, we are dwelling on substantial realities, and approximating to a just estimate of the importance of the subject.

The work which is now before us, entitled “China and the Chinese,” is already, to some extent, known to many of our readers, as the papers which form its groundwork were from time to time published in this magazine. It is, however, much enlarged—very many chapters, altogether new, have been added; and we think it now forms the most comprehensive of the modern books on China. No two volumes on the ways, means, and manners of the Chinese, by one who

has been amongst them, can easily fail of being interesting; and although Mr. Sirr’s are not without defects, they will be found to possess, independently of their interest, compensating qualities of a high character. We especially refer to the right feeling with which he exhibits the evils caused by the opium trade, and denounces its impolicy.

The opening topic of the work is our British settlement in China—Hong-Kong, an abbreviation of the Chinese words Heang-Keang, which signify “the valley of fragrant waters.” This island is one of the group called by the Portuguese the Ladrões, or Piratical Islands, and is situated at the mouth of the great estuary of Canton, in latitude $22^{\circ} 17'$, and longitude $114^{\circ} 12'$ east, being 105 miles from Canton, and 45 from Macao. Its greatest length, running east and west, is nearly ten miles, while its breadth, from south to north, is five miles and a half. The harbor, facing the capital, Victoria, is nearly four miles in length, and one and three-quarters in width, forming a compact haven with admirable anchorage. Beyond the fine harbor there seems nothing good in Hong-Kong. Mr. Sirr says that it has been at all times regarded as unhealthy by the Chinese, and that there is no other spot throughout the central empire so unfavorable to European life. We certainly have reason to apprehend that it is the least healthful locality which Europeans have tried in China, and join in the regret that our government had not the good fortune to hold Chusan rather than change our settlement to this fatal island.

There can be now no doubt that as a commercial, and also military station, Chusan has the most material advantages over Hong-Kong. Even the harbor there is finer than that of Hong-Kong, being easier of access and egress, and affording, as Mr. Sirr says, safer shelter during a typhoon. Chusan lies midway between the northern and southern provinces of China; is near Shanghai, which is fast becoming the Liverpool of China; near to Ning-po, a great emporium of trade; is at the mouth of the Yang-tsze-kang, the

trunk river of the empire, about five days' sail from Pekin, and not quite so many from another world of trade, Japan. It is worth while remarking, that Chusan was, three centuries ago, a Japanese depot, and our government would do well to avail themselves of any opportunity of opening a trade with the natives of an empire, whom Sir Stamford Raffles, from their energy and enterprise, calls the English of the East. The Duke of Wellington has said that Chusan is the key of China; and Gutzlaff, no indifferent authority, adds, in reference to it, that "the great political maxim of always, as much as possible, to keep the peace with the Celestial Empire, can never be so well attained as by retaining possession of this island. The neighborhood of a British force so near the great canal will always make the great Emperor very careful to adopt any measures that may wound the feelings of the neighboring foreigners."

The following extract affords at once a description of Chusan, and a general idea of Chinese scenery. The island is twenty-five miles long, and ten in width, and is nine miles distant from the main-land of China:—

"In the island there are seventeen principal villages, together with many smaller ones or hamlets; these are filled with well-cultivated farms, as but a small part of the fertile island of Chusan is allowed to remain uncultivated; noble hills, from eight hundred to two thousand feet in height, which are frequently planted with fir and bamboos, meet the eye; whilst in the luxuriant valleys at their base grow paddy, beans, sweet potatoes, and maize; and the lowlands are also adorned and enriched by the magnificent walnut, Spanish chestnut, varnish, and tallow trees. The farmers cultivate and raise cotton for their own use; a species of palm-tree is also reared on the side of the hills, from the fibre of which rope is made; and the green-tea tree is cultivated by all those who possess a farm, however small. As soon as the last crop of rice is got in, then the ground is prepared for the reception of other crops, such as cabbages, trefoil or clover, and the oil plant; in short, almost all that grows in China appears to be cultivated, and thrive in the fertile, beauteous island of Chusan. The more beautiful, though less useful tribe of flowering shrubs, grow in wild luxuriance; the hills and valleys are clad in smiling array with the graceful glycine, the elegant clematis, the sweet-smelling honeysuckle, the fragrant rose, and the delicate, exquisitely beautiful azalea. No pen can describe the sublime beauty of these mountains, bedecked and clothed in Flora's most lovely gifts; and the poor, humble, lowly, worm, man, 'looks from nature up to nature's God,' blessing the gracious Being who made and planted the lofty mountain's side with nature's choicest gifts.

"Fine canals are both numerous and wide, serving alike for irrigation, and to mark the boundaries of lands or property; the largest of these canals is of sufficient depth to admit junks of small size to navigate it some distance into the north valley; this artificial stream runs southward, and eastward of the city of Ting-hae. Cascades and streams of pellucid water dash down the mountain's sides; and thus the canals are always kept full by means of locks. Chusan is intersected by paths and roads in every direction, which are elevated above the neighboring fields. At present these roads are narrow, but might be widened at a comparatively trivial expense, could we be fortunate enough again to obtain possession of Chusan.

"Small joss-houses, or temples, devoted to the Buddhists, where two or three priests reside, are dispersed about, lying nestled in the groves which skirt the mountain's sides; numberless sepulchres are to be found on the island, thousands of them being completely overgrown with long waving grass; and there is scarcely a place on the hills, which lie northwest of the city of Ting-hae, that is not adorned with stone monuments, on which the name, title, age and date of the decease of those who slumber near, are not inscribed. The tombs of the wealthy are exceedingly handsome, and are placed in picturesque situations, having juniper, cypress-trees, and flowering shrubs planted round them; the whole being tended with the utmost care, and kept in the greatest order."—Vol. i. pp. 237–8.

The circumstances which strike the traveler most, in a Chinese landscape, are the extent and degree to which the land is cultivated, and nearly all is done by manual labor with the spade or hoe. By an old law, neglected lands are forfeited to the emperor, who grants them out on condition that they are well farmed. The consequence of the industry thus enforced is, that every patch is under cultivation—steep precipices, mountain sides, and even the least promising morasses. These last are made subservient to the support of man by means of bamboos split longitudinally, and laid over the bog; over these sticks is placed a coating of mould, and, in this artificial soil, vegetables are raised in the highest perfection. From the neatness of their farming and their attention to manures and soils, the country has in general a garden look. There is no branch in which their industry and skill are more apparent than in their agriculture, and we may take many a useful lesson from them. For example, they are very careful in the preparation and adaptation of the soils; they also steep their seeds in liquid manure until they germinate; and to these practices, together with their system of irrigation, is in great measure ascribed the luxuriance of their

crops. This remarkable economy of soil, the high degree of attention paid to its cultivation, and the well-known fact of the early marriages of the Chinese, seem to render it probable that the highest estimate of their population is not exaggerated. Rice is the main food of the Chinese, but fish also is largely used by all classes. We may observe that in Japan, fish is the staple diet of the nation—as vigorous a people as any in the world; and, with these facts before us, it is impossible not to lament that the fisheries around our own shores contribute so little to the industry and sustenance of our population, at all times half famished, and never half employed. The fisheries about Chusan afford a very extensive employment in the early part of spring, and especially in the catching and curing the herring, or, as they call it, the mandarin fish. During the three months of the mandarin fishery, Mr. Sirr states that about thirty-five thousand junks, and smaller craft, arrive off the coast of Chusan from the various ports of China, and that as soon as the fish are caught they are packed in ice and forwarded to every part of the empire.

The paramount interest connected with our young colony in China, must be our excuse for having dwelt so long on the subjects of Chusan and Hong-Kong.

In our opening observations we expressed a hope that England might yet be the means of giving to the Chinese a higher civilization, better health, and true religion. We shall now glance at the condition of this great empire under each of these three heads; and though we can do so but rapidly, we may even thus supply our readers with a good deal of fresh and entertaining knowledge, while, at the same time, our paper gains some of the advantages of method.

It would be easy, but tedious, to exhibit the inferiority of the celestial empire, to the great nations of the west in their government, their laws, in science, and in the arts. We shall take a shorter and more popular course. The condition of woman in any country is admitted to be a good test of its civilization, and we shall see how she fares in China: "Woman," says Mr. Sirr, "is placed in a more degraded position in Asia than in any other quarter of the globe, and we believe that in China her humiliation is complete, being rendered more conspicuous by the extent to which civilization and education have been carried in all connected with the male population of this mighty empire." The poorest male has education of-

ferred to him at the expense of the public, and it would be hard to find a boy of ten years who cannot read, write well, and show considerable expertness in arithmetic. While the boys are so well attended to, the education of girls is neglected. Very few amongst the females, of even the highest rank, can read or write. The higher-born are taught to sing a little, and to accompany themselves on a three-stringed guitar; and being destitute of mental resources, fall early into habits of betel-chewing, tobacco and opium-smoking, gossiping, and the old age of cards. Woman is in no rank regarded as the companion of man; may never but once in her life—that is, on her marriage day—take a meal with him at the same table; and in the lower ranks is treated much as a beast of burden. "We have seen," says Mr. Sirr, "a man of this rank, walk coolly and deliberately by his wife's side, whilst she tottered under a heavy load, and frequently a woman will be seen yoked to a plough, while the machine is guided by a man." One of the strong feelings of every Chinaman is a desire for male offspring. It is easier to understand why this should be the longed-for expectation of his wife. It is only as a mother that a woman is sure of being regarded with respect. No son, of any rank, would sit down in the presence of his mother until he had received her permission, and the deference shown to her increases with her age. Filial piety is one of the amiable traits in the national character, always present, lingering where there is no other virtue, and in this—including obedience to parents—the Chinese are immeasurably above the most advanced of the European races. The Chinaman has one wife, but he may have many handmaids or concubines. There is no obloquy attached to the position of handmaids, and every man who can purchase or support them has them. The wife has legal rights, the handmaid none. The former takes the husband's name; and of the seven causes for which the marriage may be dissolved, disobedience to the husband or to his parent is one, talkativeness another. The wife, however, cannot be divorced if her parents are dead. On the decease of a husband, the parental authority and control of the property devolve on the wife; and it is perhaps on this account that widows in the higher ranks are forbidden to marry. In the other grade they may; but the marriage of a widow is rare, as she would thereby lose the control of the property and the guardianship of the children. The authority of a father over his

children is, we may observe, absolute, and extends even to the selling of them for slaves. This does not often occur, as the Chinese are disposed to be good parents; but they do what is quite as bad—they sell their daughters as handmaids. As, however, the last connection is unattended with disgrace, the lower orders never think of it as wrong. There is in the household an understood distinction between the handmaid and the wife. The former is, to a great extent, the servant, and her dress and ornaments are different. The Chinaman often sends away his handmaid, although she may be blameless and the mother of his children, and supplies her place with a younger and fairer slave. It is but right to say, that there is no fortune-hunting in China. Daughters there have no money, but the man who proposes marriage must be always prepared to give a certain sum, to be laid out in clothes and jewels for the bride. A mandarin gives, it may be, six thousand taels for a wife—a tael being about six and fourpence of our money. In the middle and lower classes, the affair is managed in a business-like way—by instalments. “At first, what is termed the bargain-money is given—this binds the parents of the female to dispose of her to no other person; the presents are then stipulated for. When the last instalment is paid, and the last gift received, then, and not until then, is the bride transferred to her husband.” The practice in regard to handmaids is the same, and they fetch from one dollar up to five hundred, and sometimes so much as a thousand. Parties about to enter into marriage do not see each other, the arrangements being made by their relatives, or by some intermediate dame; and instead of sending the young lady’s portrait, her shoe is submitted to the swain, that he may estimate her beauty by the smallness of her foot. There is nothing, indeed, which more directly affects the condition of woman in China than this singular, well-known, and barbarous usage of crippling the feet. It is, too, a remarkable fact that the Chinese women have by nature very beautiful feet, perfect models of form. “The high instep,” says Mr. Sirr, “is equal to the Andalusian, the arch of the sole rivals that of the Arab, and the heel and ankle are most symmetrically formed.” So universal, however, is the rule of fashion, that such feet and ankles are only to be seen now amongst the humbler classes. The process by which the women of a great empire are lamed for life is thus described:—

“The appearance of these distorted extremities, which are merely tapering stumps, is most disgusting to a European eye. At a very early age, the foot, below the instep, is forced into a line with the leg; the toes are then doubled down under the sole of the foot, the big toe being made to overlap the others. Bandages are then applied with an incredible amount of pressure, which in the Chinese language is termed *killing* the foot; and for six weeks the child suffers intolerable agony. After that period the pain subsides, and she can totter about on these stumps. As she advances in years, the foot becomes a mass of filth and abhorrent humors; and we have been informed by a naval surgeon who had unbound and examined the leg and foot of a Chinese lady, that the effluvia arising from it was more offensive, and the sight more disgusting, than anything he had ever witnessed in the dissecting-room. By this practice, the muscles of the leg are injured and partially destroyed, as there is no development of calf, the leg gradually tapering from the knee downward to the extremity of the foot; and this is regarded by the Chinese as the perfection of beauty. The length of the foot, from heel to toe, varies from three to four inches: we have heard of a foot that measured but two inches, but we think that a slight mistake must have been made in the measurement. The bandages which conceal this deformed mass of corruption are made of silk, which are rarely removed, as the inner ones, when soiled, are covered from time to time with fresh ones; over all, the embroidered silken shoe is secured, the pointed toe of which is stuffed with cotton.

“Owing to their maimed feet the women can only walk a very short distance, even with the aid of their crutches, or long sticks, which they invariably use in the house. The hobbling, inelegant motion of one who attempts to use her feet, is considered most gracefully charming by the Chinese; and ladies who essay this exploit of danger, for they are very apt to measure their length on the ground, are poetically called ‘tottering willows of fascination.’

“Women of the higher orders, when they go abroad to visit their friends, are carried in sedan chairs, or boats, where water communication is available; but those whose means will not allow the command of these conveyances, are carried on the backs of men, or of women who are blessed with feet of the natural size.”—Vol. ii., pp. 38–40.

It may be well believed that the health of the women of China must be permanently injured, and the character of their countenances wholly changed, by this cruel and barbarous usage. The vivacity derived from health, is superseded by looks of languor and of pain, and hence, too, the national perception of the beautiful is perverted. A Chinese beauty should have a small, long eye, a countenance without expression, a figure

almost fleshless, and with no development of hips or bosom, no complexion, and a skin of a pale yellow tint. When Lum-quā, the Lawrence of Canton, was asked his opinion of an English belle, he objected, that she had color in her cheeks, that her eyes were blue and large, that her face talked (that is, was full of expression), and that she had feet large enough to enable her to walk.*

To complete the picture of a Chinese elegante we add, that—

"A Chinese belle bedaubes her face and hands with a white stone, ground to powder, used as a cosmetic, until her complexion is an agreeable mixture of dirty white and saffron. No nation in the world rely so much on foreign aid as the Chinese women do, for they are literally one mass of paints, false hair, oils, and pork-fat. Notwithstanding all these adventitious aids, we have occasionally seen in China some very good-looking, well-grown women; although their complexions were rather yellow, still their features were pleasing, and their countenances animated; but they belonged to the lower classes, so, possibly, *were not made up*; for assuredly, according to Chinese ideas, they were not beauties, as their forms were those of nature's most beautiful handiwork, woman, and not of two laths placed together."—Vol. ii., p. 41.

When such tastes prevail, it is only amongst the lower classes, who cannot afford to spoil themselves, that we could expect to meet with examples of female beauty. The boat-women and farm-servants have usually fine and very white teeth, and well-shaped and admirably-proportioned figures. Mr. Sirr adds, that, in regard to hands, arms, and feet—where they are let alone—the women of China are perhaps the most beautiful in the world.

In this glance at those "tottering willows of fascination"—the women of China—we have fairly put forward the little that can be said in favor of their condition, which, however, exhibits beyond question the imperfect civilization of the country. Where the females of a nation—that is, one-half of its population—are systematically maimed, and their constitutions forever injured; where

polygamy is virtually established; where the daughters are sold as harlots and slaves, and prostitution brings no disgrace; where woman is the servant and not the companion of man, and her education is wholly neglected while his is carefully attended to, it cannot, we presume, be easily supposed that social organization has attained a very elevated or a happy character.

The ignorance of the Chinese in regard to health is at once so palpable and so extreme, that it is quite right to make it a prominent topic. They have, we are told, no practical knowledge of the use of water, except in tea-making and some culinary processes. Unlike the other nations of the East, they do not practice bathing, and Dr. Wilson assures us that they literally "go unwashed from the cradle to the grave." The only substitute for washing, and which is used by none except persons of distinction, is a cloth moistened by hot water, and passed lightly over the hands and face. Cutaneous diseases and loathsome affections are, in consequence, universal. They are not, as may be expected, more cleanly in their houses than in their persons. Those of the wealthy are well-furnished, but deficient in ventilation. The dwellings of the great mass have earthen floors, are built on the ground, and are without sewers. In China, agriculture is the main occupation; and as population presses upon food, great attention is paid to manuring, and pits and processes of putrefaction are scattered around their dwellings in all directions. The streets exhibit like defects. They are narrow, and the pent-house roofs, which nearly meet, present additional obstacles to ventilation. The gutters and drains are stagnant and fetid, as no attempt is made to cleanse them. Then there is the miasma arising from the rice fields, as well as from the water in their numberless canals, which, if not quite stagnant, is in general so little moved as to be always foul. If to all this we add, that for many months of the year the thermometer is high, our readers may be much disposed to accept the opinion of Dr. Wilson, that the unhealthiness of China is to be ascribed less to its soil and climate than to the usages and practices of its people, and the defective structure of their dwellings and towns. Soap and water would be a blessing to the millions of China; but when we think of what multitudes in our own country reject the cheaper luxury of fresh air, we have little reason to wonder at such adherence to inveterate usage. Hygienic reform is the first want of the Chinese.

* Lum-quā paints in oil, with a fine feeling for color, and perfect accuracy in perspective. His water-color drawings are also highly praised; and from some of them, mentioned by Mr. Sirr, he would appear to be the Hogarth as well as the Lawrence of China. We allude to two series of drawings, one on a subject reminding us of Shakespeare's "Seven Ages of Man"—the birth, life, and death of a mandarin; the other depicting the course and consequences of opium smoking and smuggling.

Had they some sanatory mandarin, some Celestial Lord Carlisle, who, with energy to undertake, and talents to give form to such a movement, was also possessed of that earnest love for good which might enable him to endure, and overcome its difficulties, he would be the truest patriot their vast country ever knew.

One of the first impressions which a stranger is likely to receive of the Chinese, is that they are a religious people. Wherever he moves he sees their Taou, or Buddhist temples, and often embowered in graceful groves. On a nearer acquaintance, he finds that every householder has, like our pious Dr. Donne, his coffin in his chief apartment:—

“Ranged in regular order around this hall,” says our author, who is describing a chamber called the “Hall of Ancestors,” in the dwelling of a mandarin, “are a series of tablets detailing the family history and pedigree, interspersed with selections from the ancient sages. In this apartment, and at their tombs, the family burn offerings to the manes of their ancestors, on the respective anniversaries of their deaths. Here, also, the master of the house keeps his coffin, it being the custom for the head of every family to provide himself with his *last* domicile when he *first* becomes a house-keeper. This usage prevails amongst all classes, from the highest to the lowest, the emperor setting the example by selecting his coffin on the day he ascends the throne. The coffins used by the higher orders and the wealthy are exceedingly costly, being ornamented, lacquered over, inlaid with mother-of-pearl, gilt, and painted. So great is the variety of prices at which they can be purchased, that the expense of a coffin will vary from one hundred dollars to two thousand. These coffins are much larger than those used in Europe, the lids being of a semicircular form, on which is inscribed the name, pedigree, and dignity of the intended occupant, a blank space being left for the date of his decease, to which the family add his various real and suppositious good and laudable qualities.”—Vol. i., p. 320.

These appearances are deceptive. The joss-houses or temples have, on a near inspection, very generally a neglected look, and are often found going to decay; and this, although they are largely endowed, having estates either given them by the emperor, or from time to time bequeathed to them by wealthy individuals.

In Canton there are one hundred and twenty-three temples, dedicated to some one of the three sects, Taou, Buddh, and Jukea-su, or Confucius. There are, connected with these, two thousand priests and one thousand nuns, and the revenue they are said to possess is altogether rated at the sum of £108,335. These priests and nuns are

described by Mr. Sirr as the most soiled and sinister looking of the Emperor's subjects; and the Rev. Mr. Smith, now Bishop of Victoria, found them, in his exploratory visit, indolent, ignorant, but not unamiable. Priesthood and laity are without religion, and they exhibit alike the striking trait, that they are also without bigotry. On Mr. Smith's remonstrating with some Chinese who were gong-beating and paper-burning before an idol, he says that the patience with which they bore the interruption, and their whole manner, showed that amid this outward display of offerings, idolatry had but a feeble hold on their minds. The same writer adds—“The entire absence of any indication of anger at having their prejudices shocked by a solitary foreigner, impressed him with the conviction that idolatry derives whatever influence it has amongst the Chinese more from the force of custom than from religious veneration.” It would seem, too, that the solemn presence of that “memento mori,” the coffin, in every house, has but small effect on the character of the people.

“Female infanticide,” says Mr. Smith, “openly confessed, and divested of its disgrace by its frequency; the scarcity of females leading, as a consequence, to a variety of crimes habitually staining the domestic hearth; the damning extent of opium indulgence, destroying the productiveness and natural resources of the people; the universal practice of lying, and suspicions of dishonesty between man and man—the unblushing lewdness of young and old—the full, unchecked torrent of human depravity—prove the existence of a kind and degree of moral degradation among the people, of which an excessive statement can hardly be made, and of which an adequate conception can hardly be formed.”

When Amoy was taken by our troops, the bodies of great numbers of female infants were found in a stagnant pond overgrown with weeds, and yet there is there a well-built foundling-hospital. In the suburbs of Canton, about a mile from our factories, stands a space called the beggars'-square. Here, amidst gamblers and thieves, are invariably to be seen paupers exhausted by starvation or disease, and with only a mat fastened round their bodies. “Many of these unfortunate creatures,” adds Mr. Sirr, “die in this space, as their indigent relations, when they find them helpless from sickness or old age, bring them here, leaving them to die of disease, cold, or hunger; too frequently is to be seen a poor emaciated mortal, breathing his last near the body of a brother in disease and poverty, whose spirit has already flown, and

it is no uncommon occurrence to see six or more dead bodies lying in the square, which are removed during the day to be buried, by the orders and at the expense of the Chinese Government." All that that government does for its poor, is, it seems, to bury them. Mr. Smith, on witnessing this spectacle, well observes:—

"Such is the baneful spell of paganism, such the unhallowed influence of every false religion; even within sight of Buddhist altars: close by numerous temples dedicated to heathen gods; under the vertical beams of all the benevolence that paganism can be supposed to diffuse; we behold the spectacle of death, and the dying sinking into the grave, because none will help them, and most of them perish from actual starvation and neglect. The most corrupt form of Christianity knows no anomaly of this kind; the most feeble measure of Christian influence forbids hunger, disease, and penury to linger within sight, without making an effort to impart relief; but heathen priests permit the groan of the dying sufferer to ascend to the sky, as a testimony to that declaration of Holy Writ—'The dark places of the earth are full of the habitations of cruelty.'"

These facts and instances indicate the absence of religion, but they can convey no sufficient idea of the miseries arising from the want of its influence on the mind and characters of the great mass of the nation. Their condition, moreover, affords a new illustration of the general truth, that man cannot exist without some form of dependence on supernatural agency—that if he is not religious, he must be superstitious—and that infidelity and incredulity go together. The Chinese are exceedingly superstitious, and they have many observances, so puerile, that their continuance amongst a people so far educated and advanced would be wholly incredible, were it not a moral phenomenon which is already well known. From this springs that national characteristic, a desire for male offspring to sacrifice to their manes. On a certain month in the year they have rites, performed with gongs, flutes, and drums, on behalf of departed spirits, to rescue them from the Buddhist purgatory. They believe that all who have not offspring or relatives to make offerings to their manes, must remain in the spiritual world in misery and in poverty. Although the higher ranks may be raised above many of the vulgar errors, Mr. Smith assures us that the empire of superstition is universal.

If, however, the Chinese are without religion, they are also, as we have observed, without bigotry; and their priests have but little influence. The great difficulty in gain-

ing the attention to better teaching arise⁸ much from their reverence for antiquity and aversion to change, and, we fear, more still, from the inconsistency and misconduct of Europeans. "Perhaps," they say, "the English doctrine may be very good; but we wish that you would first try it on the English themselves, for they are wicked men. When this doctrine has made them better, then come and speak to us." One recent fact corroborates our persuasion that the national feeling in regard to religion is tolerant. It is not generally known that public opinion has considerable influence in China, and that this is owing to the existence of certain secret societies, which, serving in lieu of popular representation, have taught their rulers to respect the people. The principal of these is the *San hwei*, or "Triad Society," one of old standing, with extensive ramifications, originally constituted for the purpose of overthrowing the Tartar dynasty, but which is now supposed to be a sort of ribbon association, with a gentle leaning to rebellion, if opportunity should offer. The circumstance that such an opportunity might have offered, very probably gave impulse to the haste with which the Emperor came to terms in the late war. There is another mode of expressing public opinion which has worked as their substitute for a free press—that is, the publishing and placarding of anonymous manifestoes. These are most commonly ebullitions of feeling against corrupt officers and wrong practices; but they are a known engine for the expression of opinion on any topic which may engage the public mind. With these means and others of knowing the general feeling, and, as is well understood, a desire to meet it, the Chinese Government, in 1846, revoked their ancient ordinances for the suppression of Christianity, and the persecution of Christians, and published an edict, allowing the restoration or rebuilding of the places of worship of those who professed the religion of "The Lord of Heaven," which is their way of designating Christians, and exempting such places of worship from prohibitory regulations for the future. The high honor of having obtained this edict is due to a Roman Catholic, M. La Gréne, the ambassador from France; and the equal merit of supporting it belongs to Key-ing, the able minister and well-known diplomatist of China. This document, which is dated 20th of February, 1846, is not only an evidence of the tolerant feeling of the country—the purpose for which we adduced it—but it is also a striking symptom of political en-

lightenment, and of the breaking of the trammels of antiquated policy. They have taken, too, some other steps in the same direction, which it may be as well to notice. They have adopted improvements in the manufacture of their gunpowder, and have added wheels and swivels to their cannon.

The annals of the Chinese state that Christianity was introduced into their empire about the year 635 of the Christian era; and they give an edict which, after reciting that "the Scriptures and pictures" were brought "by the virtuous Alassun," from the distant regions of "Ta-tsin," supposed to be Judea, authorizes the building of a temple for this new worship. Mr. Medhurst, now the senior of our English missionaries in China, conceives that St. Thomas the Apostle, after visiting India, promulgated the Gospel in China, and this view is supported by the ritual of the Chaldean Church, which, when alluding to St. Thomas, adds, "By him the Persians, Hindoos, and *Chinese* were converted to the Christian faith." There is great reason to think that the Nestorians had introduced Christianity into China, previously to the date given as above by the Chinese records. Gieseler, in his "Ecclesiastical History," says that, about the year 550, some Persian monks conveyed silkworms from China. These monks were, no doubt, Nestorians, whose tenets Mosheim and Gibbon state were early diffused in that empire; citing, as their authorities, Latin, Syrian, Arabian, and Chinese writers. Marco Paulo, in the thirteenth century, found many Nestorian Christians in China; and at a later period of the same century, John de Monte Corvino was sent by the Pope to Peking, to attempt the conversion of the Emperor. He was not successful in that particular, but he acquired great influence, obtained permission to erect a church, baptized four thousand and twenty persons, and translated the New Testament and the Psalms into the Mongolian language, copies of which translation are still extant. In the sixteenth century the Jesuits established themselves in China, and as their influence increased, that of the Nestorians declined. In 1581, the celebrated Matthew Ricci was appointed superior of the Roman Catholic missions in China. Availing himself of the literary tastes of the Chinese, he gained extensive influence, and especially amongst the higher orders, to many of whom he taught mathematics. He had a church built at Nankin, another at Soo-chow-foo, then one of the wealthiest and most luxurious cities of the empire, and still regarded as the Paris

of China. Ricci published an edition of Euclid in the Chinese, and made so high a character at Peking, that he succeeded in gaining for the Jesuits a more extensive establishment than any Christian denomination ever had there before. In 1611 Ricci died at Peking, and soon after his decease the influence of the Jesuits began to wane, owing, it is supposed, to the opposition made to their teaching and tenets by the Franciscans and Dominicans. In 1635, Juan Morales, a Spanish Dominican, who had arrived in China, made such representations of the proceedings of the Jesuits, and especially of their accommodation of Christian doctrines to Pagan rites and principles, that Innocent the Tenth expressed his disapprobation of them. The conflicts of the various Roman Catholic fraternities surprised the Chinese, and lessened the influence of all; but the Jesuits had some able men, who took the path of Ricci, and upheld the authority of their order with the higher ranks. Of these, one was a German named Schael, who undertook to correct the calendar, and performed the task so fully to the satisfaction of the Emperor, that he was appointed President of the Astronomical Board, with the rank of a high mandarin. He was, because of his connection with the politics of the country, assassinated in 1669. The ascendancy of the Jesuits survived, however, for some time, maintained by the accession of some of their fraternity, who were just at this period sent out from France by Louis the Fourteenth. One of these, Father Gerbillion, succeeded, within a year after his arrival, in negotiating a peace between the Chinese and Russia, which was regarded as a most important service. Soon after, the Emperor was seized with a dangerous illness, and the Chinese doctors, finding themselves unable to treat it, called in two of the Jesuits, who were physicians, one of whom was M. Gerbillion. Under their care, and by the use of quinine, the Emperor recovered, and, as may be expected, the influence of the French priests was now established. Beneath their auspices a church was erected at Peking, which it took four years to build, and, when completed, in 1702, it was, pursuant to an inscription written by the Emperor with his own hand, dedicated—"To the only true God."

Kang-he, the emperor, is described as a man of distinguished talents. It may be well believed that he saw the follies of Chinese idolatry, and that he was, as the Jesuits affirm, about openly to embrace the tenets of the Christian faith, when his career was clos-

ed by death. Kang-he was, however, very resolutely opposed to the doctrine of the divine right of the Pope to spiritual and temporal dominion, as set forth by the Dominicans, and thus came into direct conflict with the Pope's legate, De Tournon, who supported that order, and who had issued a mandate of Clement XI., that no Chinese Christian should practice any custom or usage which was interdicted by the Pope. The discussion of such questions was obviously calculated to offend the Chinese statesmen, and it cannot excite much wonder that, when Kang-he died, in 1723, his successors were no friends to the Christians. Yang-ching, who succeeded to the throne, regarded all Christian missionaries as dangerous, on the ground that their converts were more under the control of priests and confessors, than that of the constituted authorities. He, therefore, issued an edict directing all such missionaries whose presence was not needed at Peking for scientific objects, to repair within a given time to Canton; and we are told that, in consequence of this edict, two hundred and seventy places of Roman Catholic worship were destroyed, and that about two hundred and fifty thousand native Christians were left without any spiritual directors. Notwithstanding this, the Jesuits retained some influence, and Kagler, a German of that order, was president of the Astronomical Board at Peking. From this period, up to the year 1811, every reigning emperor exhibited a repugnance to Christians and missionaries; and many edicts were issued, and some severe persecutions instituted against one or other, or both. In the last-mentioned year, a Chinese priest, with letters to his superior, was arrested, and the authorities not being satisfied with the account he gave of himself, became incensed anew against European Roman Catholics, and commanded all such to leave China, and since that date, it is said that none have ventured to reside at Peking. It would appear that, notwithstanding the rigorous order just referred to, some of the Romish missionaries held their ground in China; for Mr. Sirr cites an authority which states, that in 1820 there were six bishops there, two coadjutors, twenty-three foreign missionaries, eighty-five native priests, and two hundred and fifteen thousand converts, including seven thousand at and in the vicinity of Mecca. In the month of June of this present year, the *Annales de la Foi* gives the statistics of the Romish denomination in China to be eight bishops, fifty-seven priests of European extraction, one hundred and

fourteen native priests, and three hundred thousand converts. A still later summary states the number of bishops as twelve; the coadjutors eight; the foreign missionaries as eighty; the native priests ninety; and the gross number of converts as little short of four hundred thousand. The field which was thus so early taken, and, to their honor be it said, so long held, by the Roman Catholics, has been only lately attempted by Protestant missionaries. We have, however, great hopes that the progress of the latter will be not slow, and yet sure. It appears, from a table at the end of the Bishop of Victoria's book, that for the two years previously to May, 1846, the number of missionaries of all sub-denominations of Protestants was forty-five. This is but a small corps for so great an undertaking; but as the hopefulness of success is developed, we trust that its numbers and energy may be recruited. The American Episcopal Church has, after a correspondence with the Archbishop of Canterbury, sent out a bishop, Dr. Boone, who is to reside at Shang-hai; and the Baptists and Presbyterians of America, as well as the American Board of Commissioners for Foreign Missions, have contributed their missionaries. These are included in the table just referred to; but since it was framed, another Protestant country has evinced its interest in the evangelical work. Two missionaries, natives of Sweden, and trained at the missionary institution established at Lund in that country, are now on their way to China; they are the Rev. Messrs. Fust and Elggvist, and their destined station is the city of Foo-chow, the capital of Fokein, the great black-tea district, containing 600,000 inhabitants, and where there has been, as yet, no Protestant missionary. There is in the great city of Ning-po another missionary, whose name is not included in the above list, but who is spoken of with just admiration by Bishop Smith, and by Mr. Sirr—this is an English lady, Miss Aldersey, who, with her own resources, is making an effort to impart a knowledge of Christianity to the Chinese males.

"This lady," says Mr. Sirr, "has settled at Ning-po, where she has purchased a house, and intends there, with her heavenly Father's permission, to live and to die. Miss Aldersey has gained access where no male missionary could, namely, among the female members of families, to whom she gives portions of the Scriptures, tracts, written or translated into Chinese, and religious instruction; this lady receives the Chinese women at her own abode, and has a school for their chil-

dren; the poor, needy, sorrow-stricken, and sick, find a benefactor in this Christian woman; the former receive pecuniary relief and consolation, the latter medical advice; for this ornament of her sex understands the use and application of drugs."

Miss Aldersey had been previously engaged in like labors in Java. It is singular that the Chinese, amongst whom, notwithstanding what Mr. Fortune says to the contrary, infanticide prevails to an extent not known in any part of India, or anywhere else that we have heard of, will only entrust their little girls to unmarried female missionaries, and not even to them, as Dr. Smith assures us, without some hesitation. Miss Aldersey has thus made out a missionary path which is exclusively her own.

Ancillary to the promulgation of religion, and directly connected with our other topics of health and civilization, is the subject of medical missionaries. One of the most striking circumstances in a country which seems to us to be full of anomalies is, the fact that the Chinese, although they have long attained to a certain high degree of civilization, and are, generally speaking, a sickly people, and, consequently, great dabblers in drugs, and takers of physic, are in cimmerian darkness in regard to medicine, knowing nothing of it as a science, and very little empirically. Surgery can hardly be said to exist amongst them. They never practice dissection, not even on the lower animals. "When a limb is irrecoverably injured, it is left," says Dr. Wilson, "barring poultices and plasters, to kill the patient, or to drop off by mortification." Their implements, he adds, are rough tools, rather resembling the collection of a cobbler than the instruments of a surgeon. Du Halde affirms, that the theory of the circulation of the blood was known amongst them about four centuries after the Deluge. This must be one of his mistakes, as Mr. Sirr states that they have no knowledge of it at the present day. They conceive—like Pythagoras—that the human body is composed of and influenced by the elements. "Thus," says Mr. Sirr, "fire reigns in the heart, and the principal viscera which lie near it, air has peculiar influence on the liver, whilst water reigns lord paramount over some adjacent parts. Metals preside over the lungs and larger intestines, and earth influences the stomach and spleen." The Greek philosophers, it may be remembered, counted four elements, while the Chinese have five. They hold that the body is a kind of musical instrument—nerves, muscles,

arteries, and veins, being as strings, and each with its peculiar pulse. Many are their works on "The Secret of the Pulse," and they maintain that the same pulse which marks disease in a male, would indicate quite a different complaint in a female. With such fanciful theories, it may be easily conceived, that while the books on medicine are endless, disease is almost unchecked. Their least irrational modes of treatment are by acupuncture, the moxas, and in the use of styptics. They have been long acquainted with inoculation, but practice it in a circuitous way, introducing the virus, not directly by incision, but by pledgets in the nostril. They have a decided repugnance to vaccination, and the consequence is, that small-pox continues to be a great scourge. Where puerile practices prevail, and complaints known to be within the control of science are unchecked, there is, perhaps, no way in which the Chinese could be so rapidly served, or their good-will so easily gained, as through the means of medical missions. These have been already commenced at Canton, Hong-Kong, and Shang-hai, where their success has proved so immediate and so clear, that we should rejoice to hear of their being extended to the other consular cities, as well as of their number being increased. The Bishop of Hong-Kong mentions that at Shang-hai, "14,500 cases of medical relief have tended to mitigate the sufferings of our fellow-heirs of sin, and helped to diffuse amongst the native community a respect for the religion of the benevolent foreigner." Dr. Wilson, speaking of the medical mission at Hong-Kong, which is under the direction of Dr. Hobson, states—

"Into it Chinese subjects, with every form of disease and injury, are admitted on the sole plea of bodily affliction; but as affections of the eye are very prevalent, and so ineffectually or injuriously treated by the native practitioners, as to occasion much more than the usual proportion of helplessness and distress, a large amount of ophthalmic cases is received and successfully managed. Such persons as can afford it subsist themselves; those who cannot, are provided for from the Hospital funds.

"Then, everything which benevolence can devise, and which care and skill can accomplish, is effected for the patients; and thence, a large proportion of those admitted return to their native towns and hamlets, to tell their neighbors what the natives have done for them. They have to speak only of benefits received. Their cherished habits were not violently attacked; their superstitious follies and pagan perversions, were not made the subject of ridicule or contemptuous pity; but they were led to their abandonment, by

showing them a better system of things, and proving its vast superiority, through its practical results. Persons who went in, wasted, maimed, or blind, came out with renovated vigor and restored sight. Can the Chinese continue long to resist such teaching? 'Blind, and in love with darkness,' as they are, is it conceivable that they can go on hardening their hearts, and shutting the eyes of their understanding against such emphatic pleading in behalf of their own best interests? Will not the reiteration of such good acts, especially restoration of sight by operation, of which, till lately, they could no more form an idea than of a miracle, lead them to inquire whether the system which produces these effects is not better than their own?"

The medical missionaries are further desirous of imparting their knowledge to native pupils; and Dr. Wilson speaks of a young Chinese, named Apoon, instructed by Dr. Hobson, who was skillful in performing various operations on the eye, including that for cataract, and was well acquainted with the structure of the eye, its diseases, and their treatment. He was about to return to

his native city of Canton, and we hope that many such others will be soon dispersed throughout this dark but mighty empire.

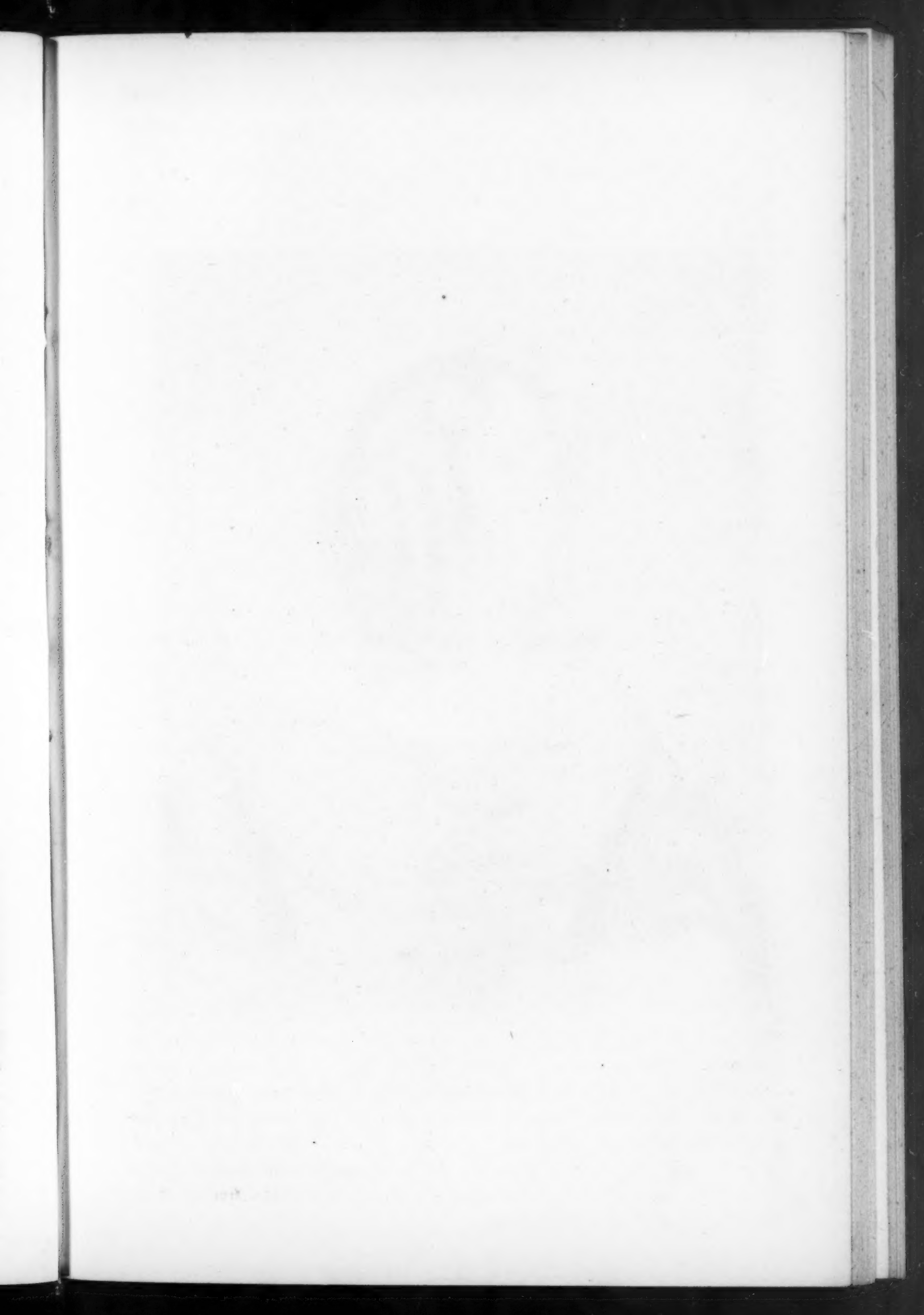
We have now discussed, at such length as we could venture on, the three topics we had selected, and might, with the assistance of Mr. Sirr, find matter and novelty enough to make a larger paper, but our limits are already passed, and we can only refer our readers to the many new, untouched, and well-filled chapters of his "China and the Chinese;" and, especially, to one on the cultivation and preparation of teas, to those on the arts and manufactures of China, and to that on the revenue. Mr. Sirr may not possess the charm of manner, his style being careless at times, and, at times, ambitious: but these failings are compensated by his industry in collecting materials, by the exceeding interest of his topics, and the clearness with which they are arranged. He is, also, somewhat given to fault-finding; but this, too, is more than atoned for by the honesty with which he speaks his mind.

LAST OF THE INCAS.

SEE PLATE.

THE striking plate accompanying this number reproduces one of the saddest and most memorable incidents in the history of the conquest of Peru—the parting of Atabalipa, or, as he is more commonly called, Atahualpa, with his family, prior to his cruel execution by the Spaniards. Atahualpa succeeded his father, on the throne of Quito, in 1529, while his brother Huascar obtained the kingdom of Peru. They soon made war upon each other, when the latter was defeated, and his kingdom fell into the hands of Atahualpa. The Spaniards taking advantage of these internal disturbances, with Pizarro at their head, invaded Peru, where they were entertained with great hospitality by the king and people. The reward of this generosity was the foul and treacherous arrest of Atahualpa, with the demand of allegiance to the king of Spain as his

master, to embrace the Christian religion. Upon his asking their authority for this request, the friar Valverde, who accompanied the Spanish expedition, gave the king a breviary as authority. Atahualpa put it to his ear, and said, "It tells me nothing;" then threw it away. This was pretext enough for Spanish cupidity. A terrible massacre of the unsuspecting and unprepared multitude was undertaken, and the king thrown into prison. He offered an immense sum of gold as a ransom. The gold was accepted, but the prisoner was not released. After enduring every indignity, he was torn from his family, and burnt alive in 1533, by the orders of Pizarro. With him the line of Incas came to an end, and the Spanish usurpation was complete.





LORETTA, THE ORIGINAL BY J. L. L. L.

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